

1902

**Journal of the Calvert Scientific Exploring Expedition, 1896-7 :
equipped at the request and expense of Albert F. Calvert, Esq.,
F.R.G.S., London for the purpose of exploring the remaining blanks
of Australia**

Albert F. Calvert

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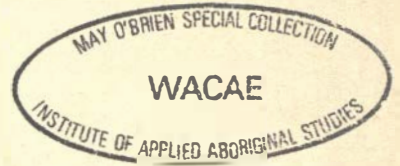
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1902.

WESTERN AUSTRALIA.



JOURNAL

OF

THE CALVERT SCIENTIFIC EXPLORING EXPEDITION, 1896-7.

*Equipped at the request and expense of Albert F. Calvert, Esq.,
F.R.G.S., London, for the purpose of Exploring
the remaining blanks of Australia.*

Presented to both Houses of Parliament by His Excellency's Command.

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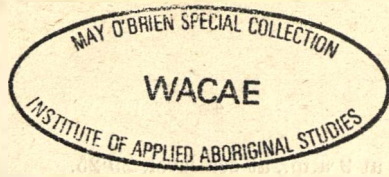
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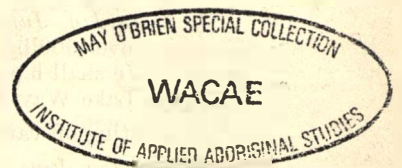
Equipped at the request and expense of Albert F. Calvert, Esq., F.R.G.S., London, for the purpose of Exploring the remaining blanks of Australia.

MEMBERS OF THE EXPEDITION :

L. A. Wells	...	...	...	Leader.
C. F. Wells	...	...	...	Second in Command.
G. A. Keartland	...	...	...	Naturalist and representing Botany.
G. L. Jones	...	...	...	Mineralogist and Photographer.
James Trainor	...	...	...	Cook and Assistant.
Bejah	...	...	...	Afghan in charge of camels.
Said Ameer	...	...	...	Assistant (Afghan) camel-driver.

EQUIPMENT :

20 camels.
6 pairs of 25-gallon water kegs.
1 pair of 5-gallon water kegs.
Stores, instruments, etc.



May 11 to 22, 1896.—Engaged in Adelaide with Mr. A. T. Magarey, agent for Mr. Calvert, in forming the party and making necessary arrangements for stores, equipment, etc., so that an immediate start may be made, it being already late in the year to take advantage of the cool season.

Saturday, May 23.—Messrs. C. F. Wells, G. A. Keartland, G. L. Jones, Bejah, and myself left the city for Port Adelaide to take our passages by the s.s. "Waroonga" for Geraldton.

Sunday, May 24.—We steamed out of Port Adelaide at daylight.

Thursday, May 28.—Arrived at Albany at 1 a.m. and finding I should have but little time at my disposal in Perth if I continued my journey by sea, I decided to take rail from there, and rejoin the boat at Fremantle.

Friday, May 29.—Travelled through the night, and arrived at Perth about 11 a.m. During the afternoon the Premier of Western Australia, Sir John Forrest, granted me an interview, and arranged that I should call upon him to-morrow.

Saturday, May 30.—Again waited on the Premier, who has granted several concessions, supplying me with information and advice in connection with his memorable trip across the Continent in 1874.

Mr. Brooking, the Deputy Surveyor General, also supplied me with plans of all settlements fringing the unexplored country in Western Australia.

Monday, June 1.—Mr. Jones and Mr. Keartland arrived at Fremantle.

Tuesday, June 2.—This morning I called on the Deputy Surveyor General, and obtained at his office all plans and information likely to be of service to me. Proceeded by rail to Fremantle, and left by s.s. "Waroonga," at 1 p.m., for Geraldton.

Wednesday, June 3.—We reached Geraldton at 10 a.m. this morning. Arranged with Messrs. Burns, Philp, & Co. to act as our agents. Finding there would be delay in getting our goods despatched to Mullewa, owing to the block at the goods shed, I decided that Mr. C. F. Wells should remain and await Trainor's arrival from Adelaide, whilst the remainder of the party accompanied me to Mullewa, where I purpose purchasing camels for the Expedition.

Thursday, June 4.—Barometer at 9 a.m., at sea-level, 29.25.

Proceeded by rail to Mullewa.

During the afternoon I inspected some thirty-five (35) camels of Messrs. Faiz and Taigh Mahome and consider them the most miserable-looking, weedy brutes I have ever seen. They are small and very poor, and it would take forty (40) of them to carry our loading as far as Cue.

The Afghan in charge informed me that these were a fair sample of the Company's camels, and also that there might be another caravan down from Cue in a week's time.

Friday, June 5.—Mr. Hoare, at present representing Faiz and Taigh Mahomet at Geraldton, arrived, and informed me that some other camels would probably be down on the 8th inst., and asked me to select some from those now in the yards. He stated that they looked poor because they were "moulting"—a term I never before heard applied to a camel. However, I refused to select any unless I could see twenty (20) sufficiently good for my requirements.

Saturday, June 6.—Hearing last evening that Messrs. Jules Gascard & Co. had good camels on the Cue road, and within 80 miles of Mullewa, I interviewed Mr. Gascard, and arranged to go up by coach and inspect them on the road. I also received an offer, in writing, for the choice of twenty (20) from the caravan.

To-day I learned that the larger and better-conditioned of Faiz and Taigh Mahomet's camels had been sent to trade between Cue and Lawlers, and I thereby inferred that the culls were kept back for my selection.

Travelled by coach and five horses to Chain Pump. Having inspected the camels on the road, and feeling thoroughly satisfied with their appearance, I decided to await the return coach for Mullewa.

Sunday, June 7.—At Chain Pump awaiting coach.

Monday, June 8.—Returned per mail coach to Mullewa. Found C. F. Wells had arrived from Geraldton, bringing with him Trainor, who had come direct from Adelaide.

Tuesday, June 9.—Waiting the arrival of Gascard's camels.

Wednesday, June 10.—Formed a camp about one mile East of township, to facilitate arrangement of loading, etc.

Waiting arrival of camels; they came in at 10 p.m.

Thursday, June 11.—Purchased 19 pack-camels and one riding-camel, 14 pack saddles, and 20 bells and straps. Sent Bejah in charge, accompanied by another Afghan.

Friday, June 12.—To-day we were all employed preparing and packing loading, in equal weights.

It is my intention to make our start for Cue to-morrow.

Saturday, June 13.—We loaded our camels for the first time, packing 14 of them, which are averaging over 500lbs. weight apiece. The six camels we are riding are also each carrying about 100lbs. of goods. We shall have a good road to follow for the first three hundred (300) miles, and by the time we reach the Lake Way Goldfield shall have lightened the loading considerably.

Getting off camp at 1 p.m., we travelled for about ten miles to a well on the Cue road.

Sunday, June 14.—Travelled about 13 miles, camping on poor feed. The country is excessively dry, and the feed very scarce.

Monday, June 15.—We were stringing out of camp at 9 a.m. this morning, and made fairly good headway, doing 17 miles for the day. Our camp is on a patch of good saltbush, which provides fine feed for our hungry animals. Up to the present we have been travelling over a very poor class of undulating country of generally shallow, reddish soil over granulite, with quartz outcropping in places on the rises, and a little granite. The vegetation consists chiefly of dense thickets of low mulga, casuarina, dwarf tea-tree, heath, native poplar, and dwarf mallee. Patches of good red soil occur in the flats, studded with salmon gum and large mallee.

Tuesday, June 16.—Continued our journey at 9 a.m. this morning. Passed a good many mulga (*acacia*) thickets, and a few patches of saltbush, along the banks of a creek, with some nice pools of fresh water. There are numerous wells of generally fresh water, from three to 10 miles apart, all along the road. Camped on an open flat with fair pasture, after travelling about 18 miles.

Wednesday, June 17.—Still following a good road we passed Gabyon Station at eight miles, and reached Chain Pump at 3 p.m., having done 18 miles for the day.

The feed is good here; so as some of the camels are low in condition, and all are carrying heavy loads, I have decided, for their benefit, to rest here to-morrow.

Thursday, June 18.—Messrs. Keartland and Jones left camp early this morning, in quest of bird-life and botanical specimens.

Friday, June 19.—The camels are looking all the better for their day's rest here, the feed being good, with abundance of herbage.

Starting at 9 a.m. we followed along the telegraph line, passing "Pindathoona Wells" at 13 miles, and at 16 miles, camping at a nice pool of water on the road. There is excellent bush and herbage here for the camels. The country passed over to-day was of a much better character than any seen hitherto. It showed good brown loam undulations with open mulga (*acacia*), and was fairly clothed with saltbush and a variety of soft herbage.

Saturday, June 20.—Following the road along the telegraph line for the whole day's stage (20 miles), we camped near "Gulearo" Well and Pool.

Passed over good mulga pastoral country to-day.

Sunday, June 21.—At 8:45 a.m. we were again on the move, passing "Gulearo Pool," a fine, long hole of water; Mr. Keartland, walking on ahead and carrying his gun on the *qui vive* for birds or game, followed the telegraph line. At 16 miles we passed "White Water Well." As the feed was poor here, we went on to "Jupp's Well" (three miles further), where we camped, having done 19 miles for the day. The water is excellent, but feed is rather scarce.

There is no noticeable change in the country, which is gently undulating with granite or granulite outcropping on the rises. The soil is good but densely clothed with mulga (*acacia*) of various kinds. There is little herbage or grass. We passed some cork trees to-day.

Monday, June 22.—Cloudy morning. A few drops of rain have fallen.

Although all the camels had water last evening they look very hollow this morning, evidencing the poor nature of the feed around this spot.

Starting at 8:45 a.m. we followed the electric line for four miles and then took the track to the left, passing "Wheellarra Well" at nine miles. As there was fair feed here I decided to camp and allow our poor "ships of the desert" a little more time to fill themselves.

Tuesday, June 23.—Starting at 8:50 a.m. and taking the dray track from "Wheellarra" we passed through some nice open flats. Then following the telegraph line we passed "Bullara Spring" at seven miles, and at eight miles again cut the dray track. At 14 miles we passed "Woolgerong" public house obtaining there some useful information about the road to Cue, and at 15 miles, "Old Woolgerong," where there is an enormous granite outcrop or hill. The tracks split here, the left hand one going *via* "Coodardy" to "Nannine," and the right hand one to Cue. Following the latter for five miles we cut the telegraph line, and a mile and a-half farther on we camped at a well, which is at the foot of one of those enormous outcrops of granite before mentioned. There is fair feed here, but care must be exercised to avoid the poison plant (*Gastrolobium*), which grows around the granite. The caravan travelled for day about 15 miles.

Wednesday, June 24.—A drizzling rain was falling as we packed this morning, but it cleared off during the day.

Started at 8:45, and travelled through some excellent saltbush flats, open mulga, and other good acacias and currant bushes, passing a shallow clay-pan at four miles, a well with excellent feed at seven miles, two (2) large clay-pans at 11 miles, and another well, on our left, at 15 miles. One mile further on we reached an accommodation house and dairy farm combined. Taking the left-hand track for two miles we camped at a large water-hole, which is one mile Westerly from "Cuddingwarra" mining town.

Travelled for day, 18 miles.

Thursday, June 25.—At 8:50 a.m. we resumed our journey. We passed the township at one mile, and reached Cue at eight miles. Failing to find sufficient feed for the camels, I travelled for two and a-half miles along the Nannine road, and North-Easterly from the township.

Travelled for day, 13 miles.

Friday, June 26.—Engaged in camp most of the day altering loading to suit the different camels. Arranged for the disposal of some unnecessary equipment and stores.

Mr. Keartland and Mr. Jones went to Cue to take some photographs.

Saturday, June 27.—I had anticipated getting an experienced camel-driver at Mullewa, but, finding this impossible, have decided to take a second Afghan instead. This will necessitate some rearrangement of the stores, and permit a reduction in weight.

Sunday, June 28.—In camp.

Monday, June 29.—Packed the camels, and, with Mr. C. F. Wells in charge, the caravan and members of the party started for Lake Way, which was discovered by me in 1892, and where there is now a township and goldfield. This is known as the "East Murchison District." It is astonishing how quickly the country becomes developed when gold is known to exist. It was on 6th April, 1892, that I returned to Nannine after discovering the auriferous country to the Eastward, where nothing but vast sand plains were supposed to exist. I was eagerly questioned regarding the country, and very shortly after prospectors set out and followed my tracks. At several of my discoveries of that year (notably Mount Sir Samuel, Lake Darlôt, and Lake Way) there are now townships and goldfields.

Leaving Cue at 10 a.m. I overtook the caravan, and we reached Jack's Well at 2 p.m. Here we were gratified to find a beautiful lake of fresh water a mile or two in extent, and abundance of fine herbage. There was from six to eight feet of water in the lake, which is fringed with tea-tree. This is not a permanent water, but the result of recent, exceptionally heavy rains. We camped here to allow the camels the benefit of the good feed.

Travelled for day, 12 miles.

Barometer at Cue Post Office at 9 a.m. to-day 28.50, and 1,580 feet above sea-level from setting at Geraldton.

Tuesday, June 30.—Leaving the lake at 9:15 a.m., and following now a new track for Lake Way, generally bearing East and East-North-East, we first passed over some open, limestone country with fair feed and a few large mallee trees, and then some level, chocolate soil with thickets of mulga. At ten (10) miles passed a well called "Mungatabubba" with fairly open patches, and further on again met with mulga thickets. At 15 miles we came upon a splendid open flat with most luxuriant growth of herbage and everlasting flowers.

There is every evidence of splendid rains having fallen in this locality.

Wednesday, July 1.—The camels looked well this morning, and if our good fortune with respect to feed continues, I hope to find a great improvement in their condition on arrival at Lake Way.

Getting a start at 9 a.m. we first travelled two and a-half miles over nice open flats with grass and herbage, and then entered level country of good chocolate soil clothed with dense mulga and thickets, with grassy patches, geranium, and other herbage in places. Noted some beautiful everlasting flowers of various hues amidst the mulga.

At 16 miles we reached the top of a granulite or sandstone rise thickly clothed with mulga, jam-wood (*acacia*), tea-tree, mallee, grevillia, and undergrowth of poor quality, but no feed. At 18 miles camped on Eastern side of rise of some fair saltbush and herbage—the first good feed met with since early morning.

Thursday, July 2.—Started this morning at 8:45 a.m. passing over some open, grassy, and mulga flats, and at eight and a half miles we saw "Mogul Well." From here the country is open with scattered gums (*eucalyptus*), mulga, saltbush, grass, and herbage. At 10 miles we passed another well in a large clay-pan which was full of water. From here onward the country is more open, with nice saltbush flats, patches of samphire, mulga thickets, tea-tree, and low bushes.

Camped on fair pasture at 2:30 p.m., having travelled about 14 miles for day.

I find that it will be necessary, owing to heavy loads and condition of the camels, to proceed by short stages until our work of exploring commences, when a depôt will be formed, and the poorer animals spelled until their condition improves.

Friday, July 3.—Light showers falling at intervals to-day. Leaving at 8:30 a.m., we passed by "Yarrabubba Well" at one mile, where there is a hut and man in charge of native shepherds and sheep; then followed mulga thickets, open saltbush, granulite ridges, and outcrops of granite. At 10 miles we reached "Wellbundinun Well," where, in 1892, I formed my depôt (Elder Expedition), preparatory to exploring the East Murchison country.

Passing "Nanadie Well" (Mr. Townsend's furthest outside water) at 13 miles, we camped, at 14 miles, at a small dam on the track. Some heavy showers fell just before camping. Here we overtook a rather fine lot of Faiz and Taigh Mahomet's camels, *en route* for Lake Way township with loading.

Saturday, July 4.—Showery all day. There is good feed here, and I have decided to spell until Monday morning.

Sunday, July 5.—In camp. Light showers falling at intervals, but beyond replenishing the feed they can do but little good.

Monday, July 6.—After striking camp and saddling the camels rain came on, and it looked so threatening that, expecting a wet day, I ordered the Afghans to let the camels go. However, after a few light showers it all passed off, although the wind was still strong from the North-West.

Tuesday, July 7.—Resumed our march at 8:50 a.m., and travelled Easterly through country of fairly level, chocolate soil, with mulga thickets and open flats, silver grass and mulga grass, occasional quartz outcrops, and ridges of granulite. Passed "Ghondamile Soak" (dry) at five miles, then came more mulga and excellent herbage, and at 11 miles good, red, sandy soil, porcupine and good herbage, grevillia, a little mallee, mulga, and wattle-bush (*acacia*).

At 16 miles sand-ridges appeared. At 18 miles, at the Western foot of a low granulite ridge, we camped in a mulga thicket with porcupine and good herbage.

Wednesday, July 8.—Showery morning. Starting at 8:30 a.m., and travelling North-East and North through mulga, we reached "Bubba-ngundi Creek" at six miles. We found a well had been sunk here in its bed, since my previous exploration of 1892 as a member of the Elder Scientific Expedition. From the well we followed up a branch creek bearing about East. The herbage here was most prolific, being knee-deep in places. At 10 miles from camp left creek, travelling North-East and North over open mulga and grass country, and gradually ascending until we reached the summit of a range of sandstone with quartz and ironstone outcrops at 16 miles. Then North-East and Easterly over stony country until 20 miles had been traversed. At this point we found the first feed met with since leaving the creek this morning.

There are some large quartz blows or outcrops on the North side of the dray-track which we are following.

Thursday, July 9.—A shower of rain fell at 6 a.m. Travelling Easterly for three miles, we struck a creek trending in a Northerly direction, where a large valley is noticeable. At the crossing are several large kurrajong trees and some shallow stony water-holes. Soakages (though not permanent ones) are to be found in sandy places further down the channel. Continuing on through rather dense mulga and occasional open grassy water-courses we again entered open, sandy, porcupine country, showing some low, red sand-ridges, and wooded with wattle-bush, a few pines, grevillia, bloodwood (*eucalyptus*), mallee, banksia, and low bushes.

At 2:30 p.m., having travelled 14 miles, we camped in a thicket of mulga with little herbage. The view ahead was not promising for camel-feed, nothing but porcupine and low scattered bushes being visible.

Tracks of aborigines, going Northward, were seen to-day in the sandy country.

Friday, July 10.—This morning, for the first time for a considerable period, we have had neither a dew nor rain, the camels' backs being perfectly dry. Following the dray track at 8:15 a.m. we travelled over desert porcupine country, with occasional thickets of mulga, for six miles to some large granite outcrops covering a big area of ground, with a good soakage at foot and shallow rock holes. Taking water from here we crossed several granulite ridges, also sandstone and quartzite clothed with mulga,

jamwood (*acacia*), and cork trees and grass on the flats. At nine miles we passed a sandy soakage in a creek, and at 12 miles a fair saltbush flat. From here on the mulga is dense and large, with patches of porcupine and mallee. Soil, a red loam, and sandy where porcupine is seen.

At 18 miles camped on inferior camel feed, having seen nothing good for the last six miles.

Saturday, July 11.—Fine morning. Some of the camels did fairly well last night, but the poorer ones look hollow, the feed being scattered.

The country crossed for the last two or three days is very stony in places, consequently some of them are tender-footed.

Beginning the day's journey at 8:10 a.m., and travelling the same class of country, we reached a granite knob or bluff at five miles. The porcupine flats about here have some fine large bloodwoods (*eucalyptus*) scattered over them. We noted very good green herbage at 11 miles, and at 18 miles camped in a mulga water-course with soft herbage.

Sunday, July 12.—A heavy frost was experienced last night. Several of the camels are lame this morning, owing to the many sharp, loose stones on the ground's surface.

Packing some of our riding camels in place of others, and walking ourselves, we got a start at 8:25 a.m., and are now following the foot of a large range in an Easterly or North-Easterly direction. The track is very stony, and not at all suited for camels. Walking in front of the caravan, we cleared the stones off as best we could for nine miles, to the bluff end of the range, which is on my route of 1892 (Elder Expedition). This point was named after myself by the South Australian branch of the Royal Geographical Society. It is about 2,100 feet above the sea level, 200 feet above its base, and 400 feet in elevation from Lake Way, which is but four miles Easterly from here. Rounding the point of the range, we bore Northerly until we struck a wide gum (*eucalyptus*) watercourse, with excellent camel feed. We saw nice large gums here, also beefwood, acacia, currant bush, willow, tea-tree and mulga on either side; also patches of saltbush and splendid grass and herbage.

Owing to the stony nature of the country our progress was greatly retarded, and, although we travelled till late, we only compassed 15 miles for the day.

Monday, July 13.—Resuming our journey at 8:40 a.m., and still travelling Northerly, we crossed the creek again, and at three (3) miles reached a beautiful chain of fresh-water lagoons—shallow, so far as I could ascertain, and only filled after exceptional rains.

When overflowing, these lagoons empty into Lake Way, which is salt. They appear to have been dry for many years at some time or other, as there are belts of mulga, low bushes, and saltbush growing in their beds. We formed a camp on the furthest North-Western shore, on a patch of rather poor feed. Travelled for day about $3\frac{1}{2}$ miles.

Tuesday, July 14.—During the morning some natives came to camp, bringing a lad with them who could speak broken English. Up to the present time, and since leaving Geraldton, I have been unable to get a native of any value to us. All the useful ones are employed by prospectors and teamsters. This boy appears anxious to go with us, and I will take him. He says his name is "Wyndham."

Observed for true meridian and latitude. Found latitude 26deg. 38min. 41sec. South at camp, and variation of compass 2deg. 32min. West, the true bearing from Mt. Wells to camp being North 8deg. 40min. East.

Wednesday, July 15.—Mr. Jones went to the natives' camp and measured and photographed some of the natives; and Mr. Keartland was successful in getting some specimens of birds and botanical collections.

Cut up and salted sheep and repaired saddles.

Observed with another sextant and mean of four (4) stars, gave latitude 26deg. 38min. 30sec. South.

Thursday, July 16.—The camels are not faring well on this camp, and I am disappointed at not getting better feed for them. We shall now require all our strength, as, for the future, it will all be cross-country work, with probably heavy loads of water to carry.

Giving our last correspondence, for some months at least, to "Dadu," an Afghan friend of Bejah, who is returning from the township to Cue, we packed up and left this camp, travelling Easterly round the edge of the lagoons for five (5) miles to some really good feed, and on country free from stones. Made a camp here, and, accompanied by Mr. Jones, I started out to examine the country on ahead, and to ascertain whether there is any water to be found in the vicinity of Mt. Cleaver (Elder Expedition).

Leaving camp at 1:15 p.m., we travelled on a true bearing of North 69deg. East for six (6) miles, then altered our course to North 49deg. East for some stony hills showing in the distance, with Mt. Cleaver in the background.

Passed for first eight (8) miles over open, level, loamy soil, clothed with mulga (*acacia*), excellent herbage, and patches of saltbush and abundance of grass. Then followed sand ridges and porcupine, and a few bloodwoods and bushes. Reaching the stony hills at 11 miles from camp, we noted granite outcroppings to the North-East, and a small creek about half a-mile distant, fringed with gums (*E. redunca*). This tortuous channel can be traced by the bright green foliage from Mt. Cleaver, where it has its source. Mt. Wells bears from here from true meridian North 223deg. East. Going over to the creek we found some nice little water-holes, sandy soakages, and rocky beds in the channel.

Following up the creek for two (2) miles over rocky country (granulite) with mulga and jam-wood (*acacia*), we camped for the night on a small patch of herbage for the camels.

Travelled for day 19 miles.

Friday, July 17.—We followed up the creek for one mile, seeing several small sandy water-holes, then branched off for Mt. Cleaver, which we reached at about three (3) miles. From the summit the view to the Northward was chiefly sandridges and porcupine, with low mulga ridges to the North-East. Bearing from here to Mt. Wells North 222deg. East.

Leaving the hill, we proceeded to the North side of the range, which is about one (1) mile long, with an East and West trend. Finding no water here, we travelled round the Eastern end, and thence Southerly down a small gum creek, where there are several small water-holes, at one of which is a tree marked "96," and, close by, two (2) old pack camel-saddles. Feeling confident we shall find more waters on ahead when we start with the full party, I decided to return to our camp of last night and thence to rejoin main party.

Travelled for day 25 miles.

Saturday, July 18.—Camels have greatly improved in appearance here.

Packed up and started at 9 a.m., bearing North 64deg. East, and at about ten (10) miles reached the small stony hill visited on the 16th inst. Then bearing North 69deg. East for three (3) miles we struck the small gum creek coming from the Eastern end of Mt. Cleaver Range, and trending South-Westerly. Found several small water-holes here and camped, having done 13 miles for the day. These small creeks empty their waters into Lake Way.

Sunday, July 19.—Continuing on true bearing of North 69deg. East, we crossed some more small gum creeks trending South-Westerly, reaching a granulite, mulga-clothed ridge (very stony travelling) at six miles, and a similar one at eight miles. Then followed open porcupine, sandy soil, and a little mulga and mallee (*eucalyptus*). At two (2) miles we reached the edge of the mulga and grass, the country gently rising for the next three (3) miles, when, at thirteen (13) miles, we camped near two (2) remarkable, round-topped hills of flints (Rose Hills). These hills I noted on my exploration trip (Elder Expedition) in 1892, my route passing a few miles to the Southward. Surrounding this spot are some nice open saltbush flats and dry claypans. I camped here, deeming it unwise to leave a certainty, in the shape of good feed, simply to accomplish a few extra miles of travel.

The place is alive with numerous small birds, such as finches and small and cockatoo parrots, all making themselves very busy amongst the grass seeds.

Monday, July 20.—Still bearing North 69deg. East true. We left camp at 7:45 a.m., and crossing a stony brook bearing Southerly, travelled over open saltbush flats for two (2) miles, then over low mulga ridges or rises with quartz and ironstone rubble on surface. Met with mulga thickets, patches of porcupine, a few beefwoods, corkwoods, and mallee. Watercourses (small) all bearing Southward.

At two (2) miles altered bearing to North 88deg. East, and followed this course for two miles to the foot of a low mulga range bearing North and South. Finding a patch of good herbage, we camped here, having travelled 14 miles. During the evening I walked on for three miles and noted ahead another range, which I had crossed in 1892, on my return trip to Nannine.

Tuesday, July 21.—Started at 7:40 a.m., still bearing North 88deg. East, passing, at two (2) miles, a quartz or quartzite outcrop about one mile to Southward, then got into fairly open mulga (*acacia aneura*) country, with grass in abundance, but of a generally inferior quality. At seven and a-half miles came upon a shallow watercourse, trending Southerly. Reached the range at nine miles. It is of granulite formation and mulga-clothed in parts.

After some difficulty we found a spot at which to attempt an ascent, with a view to crossing, and thereby saving a long round. Managing to get to the top, we found it very stony there, but were fortunate enough to discover a good pad, which, a long time ago, had evidently been cleared of the tones by natives, who had piled them up on either side. We followed this across the range, which is flat-topped, for about half a-mile, when we saw some thousands of finches flying from a gorge. Here we found a large rock-hole, with a sandy soakage, at the foot of a waterfall, which is 30ft. high. A small creek runs out from the gorge to a flat on the Eastern side of the range.

We camped in the gorge about ten (10) chains down from the water, having travelled ten (10) miles for the day. I have called this place "Ballimore," after the birthplace of Lady Hawker, wife of the late Hon. G. C. Hawker, of South Australia. The water is in a difficult spot to find. I passed close by it without observation in 1892. We noted fresh tracks of emus and kangaroos.

Latitude 26deg. 24min. 40sec. South.

Wednesday, July 22.—The native, "Wyndham," bolted during the night or early morning, taking his clothing, boots, and blanket with him. We were not sorry to lose him, as he turned out a useless, lazy rascal, and would only have proved an encumbrance later on.

We filled three (3) pairs of water-kegs here, and, watering the camels, we left this welcome spot at 8:40 a.m. Bearing North 65deg. East, we passed over broken granulite rises for two (2) miles, having crossed at one (1) and two (2) miles, two (2) fairly large watercourses, with a few cork trees and coarse grass, trending Southerly. Then followed sandy country, open porcupine, desert gums (*eucalyptus endesmioides*), and some bloodwoods and wattle-bush (*acacia*). Mulga thickets also occurred. There are small forests of the desert gums, which are large, and look healthy. The green foliage of these and the bloodwoods are pleasant to look upon. Crossed occasional ridges of sand in parts.

At sixteen (16) miles we camped in a clump of desert gums, with a few wattle bushes only for the camels. Noticed a good many tracks of emus to-day, and close to camp are recently-made tracks of natives.

Thursday, July 23.—Now bearing North 54deg. East over porcupine and sandridges. Passed many fresh tracks of natives for $3\frac{1}{2}$ miles, then the character of the country changed to low

limestone ridges, with black oak (*casuarina*) teatree, saltbush, and herbage. In my opinion, water would be found at no great depth hereabouts by sinking. At five miles we reached the top of a ridge of sandstone and slate, with East and West strike; and at six (6) miles, at foot of same, is a dry lagoon, the Eastern edge of which we just cleared. It lies between two (2) mulga ridges, and is about one (1) mile in extent, with good saltbush, vetch, and herbage on its edges, and sandy soil and mulga surrounding it. This lagoon has the appearance of being fresh, except that samphire is growing around it; so, probably, it goes salt before drying. Continuing on, we crossed a large watercourse coming into the lagoon from the South-South-East, with belts of tea-tree on either side.

At 10 miles reached the top of another slaty mulga-clothed ridge. From here we had a good view of the lagoon just passed. Seeing some green gum-trees ahead, and nearly on our course, I decided to visit them and look for water. Reaching this spot at 1 p.m. (having travelled 11 miles), we found a beautiful little glen (Lorna Glen) between two (2) of the low mulga ridges, a wide shallow watercourse coming in from the Northward. Some magnificent large white gums studded its banks, and on either side were mulga, jamwood, beefwood, cork-tree, tea-tree, prickly acacia, and currant bushes. Grass and herbage grow along the watercourse.

Formed a camp, and started down the channel in search of water, bearing Southerly for half a mile, where another shallow watercourse junctions with this one, and then gradually trending round to the Westward. Further down, the gum-trees, many of which are young, form a pretty avenue. We came upon large slabs of honeycomb limestone (travertine) in the channel, and saw many familiar birds—magpies, minahs, crows, shepherds' companions, cockatoos, and ring-neck parrots, mulga parrots, finches mud-larks, and butcher birds.

At $1\frac{1}{2}$ miles some blue cranes rose as we approached the end of a narrow lagoon, which we found contained perfectly fresh water. This lagoon is two (2) miles from camp, and is from four (4) to ten (10) chains wide, and about half ($\frac{1}{2}$) a mile long. We disturbed some black cormorants as we walked along its edge. Probably the surface water dries here during the summer months, but, from the large quantities of travertine limestone, I have no doubt as to the permanency of water at shallow depths. Belts of tea-tree fringe the lagoon, which, when overflowing, empties into the other that we passed by this morning. I have called this water "Lindsay Gordon Lagoon," after Australia's poet.

Highly satisfied with our success, we retraced our steps to camp, where I marked a fine gum tree on West side ^{L.A.W.} ₂₃₋₇₋₉₆ inside a diamond blaze. At this glen there is a very pleasing contrast between the beautiful green of these large gum trees and the sombre tint of the mulga, which clothes the adjacent ridges.

Latitude at camp, by observation, 26deg. 13min. 10sec. South.

Smokes, doubtless of natives, were seen from camp in a South-Easterly direction.

Friday, July 24.—We experienced a cold night and frosty morning.

Sent all camels down to the lagoon to drink, and starting from camp at 9:30 a.m. on North 65deg. East course passed, for first five (5) miles, over fairly open country, with grass, saltbush, etc.

Noted some nice beefwood trees on low ground, and some shallow watercourses trending in a South-Westerly direction towards the lagoon. Then, for the rest of the day, thickets of mulga alternated with grass country. At nine (9) miles we came upon a small patch of saltbush (giant), and ahead, very stony, rising country approaching a rough-looking range. Fearing a stony camp, without feed beyond this, we turned out at 2 p.m. A prominent bluff point or headland, at South-East end of a table range, lay to the North-West, about two (2) miles from camp. My cousin and self walked over to this and ascended it, but could not get a good view, the range in front of us being much higher.

During the day we crossed many fresh tracks of natives.

Saturday, July 25.—The camels were dissatisfied with the feed, and made off during the night, but Bejah soon tracked them up, and we got a good start at 8 a.m.

Continuing on same course, we reached the ranges at two miles; they are of rough sandstone and quartzite caps. Crossed the first top at three (3) miles, and struck the head of a watercourse, the direction of which was on our bearing; its winding channel was almost hidden by some splendid kangaroo and other grasses. There is a prominent high bluff point about half-a-mile on our right, which I have named "Sierra."

Following down the watercourse we were surprised to see some fairly recent cattle tracks, evidently those of cattle which had strayed from settlements at the head of the Murchison River during the last rains. At five (5) miles we passed the highest point of a belt of broken hills about one (1) mile to our left; these are in a valley between the ranges. Here we noticed some clay-pans and dry lagoons. Crossed another top at seven (7) miles, and found progress difficult. Cleared off some of the stones, breaking mulga and following in places old pads of kangaroos. There are several watercourses here bearing to the North. We did not get clear of this range* until we had travelled about twelve (12) miles, when we descended to grassy plains and mulga, with outcrops of sandstones, and several shallow watercourses, trending Easterly. The ranges just crossed were striking East-South-East and West-North-West, and, in my opinion, divide the water-shed of the Murchison from the country lying to the Eastward of this.

Noticing the green tints of the tops of some gum trees on our left, I felt certain there must be water in the creek, and I therefore asked my cousin to cross over to the nearest point to ascertain whether it was so, whilst I continued on our course with the caravan, cutting a large gum creek at sixteen (16) miles. Here I met my cousin following down the channel. He reported plenty of water in holes all along its course. We camped here on a nice water-hole at 4 p.m., elated at our good fortune, as we had been hoping to find some good water on this side of the rough range crossed to-day.

* I have called this range "Princess Range," in honour of her Royal Highness the Princess of Wales.

There are some splendid gum trees (*E. redunca*) and red mulga fringing the channel, which has the appearance of running strongly in flood time.

Bejah picked up the shell of a small tortoise at this water-hole. This must be an indication of permanent water somewhere not far distant. The channel of this creek is about fifty (50) yards wide, with a sandy bed in clay. This I have named "Charles Wells Creek," after Mr. C. F. Wells, second in command of the expedition.

Sunday, July 26.—Leaving the water-hole at 9 a.m., we crossed the creek, continuing our course of the last few days for two (2) miles, when the channel took a long sweep to the South-East. From the top of a stony rise I could see it again bending to the North-East, some miles down. As the country on the North side consisted of low, mulga-clothed ridges of sharp stones, I altered our course to North 100deg. East, travelling over open mulga and saltbush country with some nice claypan, the low ridges of sandstone and slate lying on our left. We saw some old wurlies (natives) as we travelled along. At eight (8) miles we found another gum creek coming into this one from the North-West, with rough country on either side. Here we found a splendid, long water-hole,* with ten (10) feet of yellowish water in stiff yellow clay, a good clay bottom, and steep banks. When full this hole would hold 15 feet of water. Some months must have elapsed since it was filled, the grass and herbage along the banks being almost dry. There is an abundance of good saltbush in the creek valley, and as last night's camp was a poor one for feed, I decided to camp here, having travelled but ten (10) miles for the day.

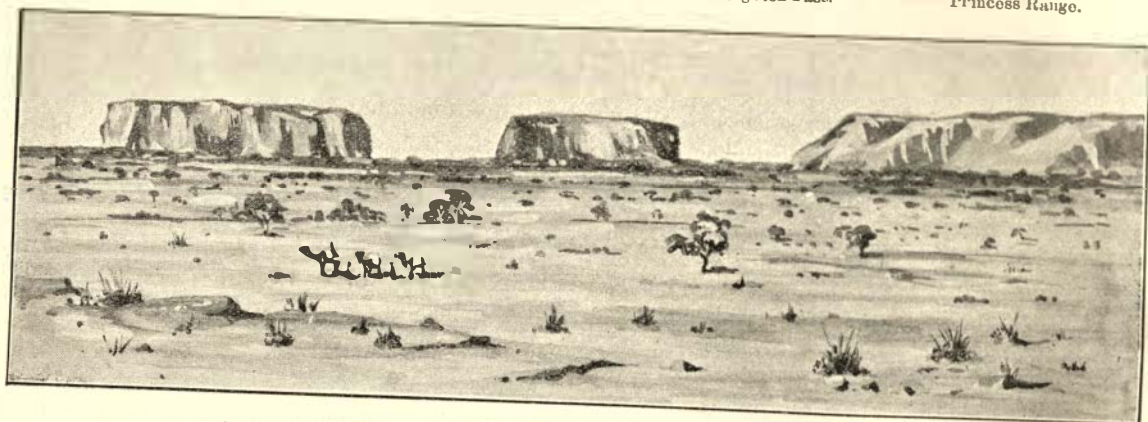
During the afternoon I walked on a bearing of 65deg. magnetic over ridges of exceedingly hard, rectangular, sharp, sandstones and slates, all fairly open. At three (3) miles from the top of one of these ridges, I could see the creek at camp coming from a considerable distance to North-West. A prominent table-top hill at the Western end of a range or table-land bears North 170 East, true. This hill, which is about 15 or 20 miles distant, I have called "Mount Alexandra," after Her Royal Highness the Princess of Wales, and the end of the range or table-land, "Federation Headland" (this range is probably identical with the "Carglew Range" of the Elder Expedition). The Princess Range is apparently in the same line, the prominent table-hill being between the two. The gap formed between these two ranges I have called "Kingston Pass," after the Hon. C. C. Kingston, Premier of South Australia, who has taken a prominent part in the present Federal Council. I crossed over toward the creek on which we camped yesterday, with a view of finding an easier route for the camels to-morrow; having been successful, I returned to camp at 5 p.m., after walking seven miles over rough country.

Federation Headland.

Mt. Alexandra.

Kingston Pass.

Princess Range.



View from near Camp, July 26th (about 20 miles distant).

Monday, July 27.—Travelled South-Easterly along the creek for half-a-mile, when it reaches the valley of the larger one found on the 25th inst., and splits up into several channels. Then skirted the valley along the edge of the rough country I had seen yesterday, bearing North 80deg. East for three (3) miles, then North 50deg. East for two (2) miles, where the creek, which junctions with the larger one, empties into a salt lagoon about one (1) mile wide here, with shallow water, and hard, rocky sandstone outcrops in its bed. On the North are very rough sandstone and slate ridges, and on the South. At four (4) miles on this course the lagoon was so close to the rocky stone ridges that we were forced to leave its shore and cross the latter.

Now bearing North 20deg. East and crossing broken ridges. We noted that the lagoon emptied into a salt lake on our right, where sand ridges were bordering its shores. At four (4) miles we struck the junction of two more creeks, fringed with beautiful gum trees (*E. redunca*). One of these creeks comes in from the West, and the other from the North-West (330deg.). There is capital camel feed here, good herbage and saltbush, so we camped, at eleven (11) miles for the day. During the afternoon my cousin went up the channel to the North-West, and at 1½ miles he found a nice clay water-hole in its bed, which, in his opinion, will last for a month or more. Walking Easterly myself for about a mile and a-half to some high sand hills which grow good herbage, I came to a large salt lake (Lake Rudall)—the same one we noticed this morning—quite dry. The bearing along its edge was North 50deg. East. I should say it is quite four (4) miles wide and eight (8) or ten (10) miles long. There is a range or table-top on the South-Eastern side, and sand hills border its shores.

Returning to camp, I noticed fresh footprints of a native and three dogs. In the sandy bed of the creek, where it empties its waters into a samphire flat and the gumtrees terminate, were several nice

* Frederick Water.

soakages of fresh water. A number of crested bronzewing pigeons were flying around here, filling the air with the well-known sound of their wiry wings. Mr. Keartland reports having seen a domestic cat yesterday, and there are several tracks of these animals here. It would be natural to assume that the whole of these unknown parts of Western Australia is inhabited by them, for during the trip of the Elder Expedition across the Victoria Desert in 1891 I, myself, saw a domestic cat, and at Frazer Range we were informed that the outside natives captured and devoured a great many.

•Latitude by observation, 25deg. 58min. 2sec. South.

Tuesday, July 28.—Cold night, frosty morning.

At 8:20 a.m. we continued our travels, now bearing North 50deg. East true, over open mulga flats and sandstone and slate outcrops. Crossed another gum creek at three (3) miles, with a nice waterhole on our left, where we saw some ducks, and at four (4) miles another channel, both coming from the North-West, and another a little further on, coming from the North, all trending towards the salt lake.

From here I could see Mount Hosken (J. Forrest, 1874), bearing North 92deg. East. Altered course to North 80deg. East, and, crossing more rough sandstone, slate ridges, and gullies, met with another gum creek at three (3) miles, with a North and South trend, and at nine (9) miles another, trending South and apparently coming from the North-West.

Continuing on the same course over broken sandstone country and hillocks, some very red in appearance, a great deal of bare ironstone rubble ground, and some clay-pans, a little inferior mulga, and poor saltbush. Camped at 4 p.m., at thirteen (13) miles on this bearing and seventeen (17) miles for the day. Very poor food here for the camels. I made a mistake in not camping at the last creek crossed, but it is easy to be wise now!

Walked to a hill about one (1) mile North-East of the camp, which is capped with hard flint. Bearings from here to Mount Hosken, North 118deg. East, and to Mount Moore, which is also visible, North 6deg. East. I could not see Lake Augusta from this hill.

Wednesday, July 29.—The camels made off during the night. Getting them all packed at 8:40 a.m. and attempting a start, we noticed one of our best pack camels trembling in the hind quarters, and, thinking he had hurt himself whilst rising (his load being heavy), we removed his pack to another animal. However, shortly after starting, he lay down and would not rise again. Almost immediately afterwards another was affected in the same manner. We then knew they had been poisoned. I had all the packs removed, and leaving Bejah and the remainder of the party here to attend the sick ones, myself, my cousin, and Mr. Jones started with 18 camels for Lake Augusta or Mt. Moore, in the hope of finding food and water in that vicinity, as it was my intention to form my first depôt hereabouts, if practicable.

Getting a fresh start at 10:30 a.m., and bearing North 10deg. East for Mt. Moore, we passed over miserable flats of clay with slate rises and quartz crystal, and destitute of all vegetation except dead mulga and bushes. At six (6) miles hillocks of decomposed slate with a little mallee occurred. From here are visible the red sandridges surrounding Lake Augusta, and the Timperley Range is very conspicuous. Mt. Hosken, at its most Southern end, is a peculiar hill, the summit being a peak of red and white. Reaching the sandridges, and ascending one, I saw Lake Augusta close by, to the East. It resembled a large claypan, very shallow and perfectly dry. The sandridges were also very drought-stricken in appearance, the only feed being a little wattle-bush. This was very disappointing, and we had now but little hope of finding feed or water at Mt. Moore. When Sir John Forrest discovered this lake in 1874 it was teeming with wild fowl (ducks and swans) and presented the appearance of being deep, and there was plenty of water near Mt. Moore in holes. Taking the camels to the Northern side of the sandridges, we camped at the entrance to the lake of (2) two shallow watercourses, where there is but little feed, having travelled fourteen (14) miles from the rest of the party.

My cousin and self started at 4 p.m. for Mt. Moore, Mr. Jones remaining in charge of the camp and camels. After riding about five (5) miles we found Sir John Forrest's camp and his marked tree, also a small pile of stones erected by him on Mt. Moore. The country here was exceedingly dry and parched.

Returned to camp at 7 p.m. and found the camels had made off, and we had twice to go after them in the dark. It was 10 p.m. before our day's work was finished. Travelled 24 miles for day.

Thursday, July 30.—Feeling anxious about the poisoned camels, I made an early start, and rejoined the others at noon. I found the poor beasts not much improved, being still in pain. Bejah had given them a mixture of warm water and soap, without the desired effect. We at once dosed each of them with a bottle of castor-oil and hot water, and administered an injection of soap and water with a gun-barrel, a course successfully adopted by Colonel Warburton in similar circumstances. The oil and injection, together with a good rolling about, have had the desired effect; although they are still unable to rise, I believe the animals are much improved. One is almost paralysed in the hind quarters, whilst the other has lost the use of his fore legs. Where these two camels were found feeding yesterday morning, Mr. Keartland has discovered a plant which we believe to have been the cause of the trouble. It is small and almost leafless, with several shoots from the main stem, and generally about twelve (12) inches high; when broken a sticky, milky fluid is seen. In place of leaves, it has a small fringe, and is very green when all other herbage is dry, and consequently inviting in appearance to a hungry camel.

When food is plentiful, camels do not usually eat food strange to them.

Friday, July 31.—This morning one of the camels managed to rise, but is too weak to travel, whilst the other is still improving. Messrs. Keartland and Jones, with Bejah, remained here with the invalids, whilst Mr. C. F. Wells, Trainor, and Said Ameer accompanied me with the caravan. Following our outward pad for four (4) miles, we reached the last gum creek (the Brockman) crossed on the 28th inst., and proceeding up the channel for half-a-mile, we came upon a splendid water-hole (Harry Johnston

Water), about 30 chains long and up to a chain wide, with from (8) eight to (10) ten feet of water at present, and, when full, capable of holding from (12) twelve to (15) fifteen feet of water. It has a clay and sandstone bottom, and is shaded by some beautiful white-barked gum trees (*E. redunca*), their green foliage affording a pleasant relief to the eye. On the flats are some large beefwood trees, and reeds or rushes grow near the water's edge. This is an excellent water, and, if not permanent, it will last for months; and I feel confident, if it dries, that water can be found at shallow depths by sinking in its bed.

Having decided to make this our depôt, I walked down the tortuous channel of the creek to its mouth, where it empties into a salt lagoon, which apparently leads to another salt lake. At three (3) miles the green gum trees end; the water-holes are brackish, and but a few dead trees are to be seen on the banks of the creek. We noted hillocks and ridges of sandstone on either side. Generally bearing South, we reached the lagoon at five (5) miles, where there are sandridges on either side. We found a little feed from one to two miles from depôt, but nothing of importance beyond. Returned to camp, having walked quite twelve (12) miles.

There was a variety of ducks on the water-hole, and we bagged fourteen (14) teal and widgeon, and four (4) pigeons.

Saturday, August 1.—With (2) two riding-camels I started for the other camp, taking some road ducks from Trainor to our mates. On arrival found everything progressing well, and in a few minutes we had the second camel on his legs. He soon went down, however, but persevering we got him up again, walked him about on a claypan for some time, and then left him standing, feeding on some herbage which his kind attendants had walked long distances to collect.

At 2 p.m. we packed up and started for depôt, Bejah driving the worst animal in the rear. We managed to get all in before dark.

Trainor and Said Ameer bagged six (6) more ducks, and report more waterholes up the creek. I have marked a white gum tree here ^{“L.A.W.”} 1 within a diamond blaze. It is on the Eastern bank of the creek and facing West, about three (3) chains South of the water-hole, the latitude being 25deg. 54min. 30sec. South. 1-8-96

Sunday, August 2.—Having found sufficient feed for the camels about here, I have decided to give them all a week's spell, after which it is my intention to start on a flying trip to the Northward, through Blocks B. and C., and into the centre of the Great Sandy Desert, the object being to look for water, so that I may get my party and impedimenta through to the Fitzroy River, and map in, by different routes, as much as possible of the intervening country. During my absence Mr. C. F. Woll will take charge here and return to one of the gum creeks crossed last week, camping wherever he deems best for food, to recuperate the camels he will have in his care.

Last evening was cloudy and threatening, and a few drops of rain fell during the night. To-day is very cloudy, and a strong Easterly wind is blowing.

Monday, August 3.—To-day we form a temporary camp one and a-half mile down the creek, so that we shall be on the camel feed and have the camels near at hand. Those showing mange were clipped ready for dressing, and one that had lamed himself at Lake Way was fired behind the shoulder.

Dingoes visited the camp during the night and were fighting over some duck bones thrown from the mess.

Wednesday, August 5.—A fine, warm day. Mr. Keartland and Said Ameer walked up the creek for some game. They returned with six (6) ducks, two (2) waterhens, and two (2) pigeons.

Went South along the creek to examine the lagoon and salt lake seen on Friday. Taking a gun and camera, walked along the channel for five (5) miles to the lagoon at the mouth of the creek, where we saw a number of ducks. We passed a great number of salt water pools, and the water in the lagoon was also very brackish. Ascending a high sandridge, we saw a large salt lake (Lake Carnegie), now perfectly dry, apparently extending some six (6) or eight (8) miles to the South-East, and three (3) or more miles wide in places. Mr. Jones took several views from here, and one of the lagoon, whilst I read angles and made a sketch.

Mount Hosken bears North 68deg. East, a distant table-top hill, North 92deg. East, and North 130deg. East through the lake to the furthest point visible.

On the shores of the lagoon were a number of old camping places of natives; here we saw many shells of emu eggs. We found the bed of this lake 1,400 feet above sea level. Returning, we had a shot at the ducks, and bagged eight (8) teal, one (1) widgeon, and a diver, for three shot. We returned very hungry, having walked ten (10) or twelve (12) miles, but considering ourselves well repaid for our trouble.

Thursday, August 6.—Observed for true meridian by Azimuth's last evening, the magnetic variation being 15min. West.

Making preparation for my proposed flying trip to the North and North-East.

Repairing camel saddles. Had several camels dressed with tar and oil to cure mange.

Friday, August 7.—Mr. Jones and self went down the creek to the lagoon for some shooting, returning at 2 p.m. with ten (10) ducks. We found them very wild, and it took some manœuvring to get close enough to shoot them.

Latitude at camp, 25deg. 55min. 49sec. South.

Saturday, August 8.—Sent all camels to depôt for water, also two (2) pairs of kegs to be filled and left until Monday morning.

Plotting work and preparing plans for proposed trip.

A few drops of rain fell during the afternoon.

Sunday, August 9.—A cold night and slight dew.

We are all enjoying a quiet day in camp, everything being in readiness for to-morrow. This will be our last day together for some weeks, but we all hope to meet again next month, after a successful trip into the desert. I anticipate being able to travel over five hundred (500) miles before returning, if no waters are discovered.

Monday, August 10.—A few drops of rain fell during the night and again this morning.

Packing all the camels, we left camp. Mr. C. F. Wells, in charge of thirteen (13) camels, accompanied by Mr. Keartland, Trainor, and Said Ameer, with all stores and equipment, started on a return journey to one of the several gum creeks crossed on the 27th and 28th ult., where we had noted fair feed, with instructions to move about from place to place, if necessary, until my return, so that the camels will always be on good feed.

Mr. Jones, Bejah, and myself, with seven (7) camels, three (3) pairs of 25-gallon kegs, and six weeks' supplies, proceeded up the creek to the water-hole, where the camels had their final drink, and we topped up our kegs. Travelling Easterly along our former pad, we passed the poison camp at four (4) miles, then bearing North 87deg. East over stony mulga-clothed undulations, with some nice patches of Mitchell grass, we reached the Timperley Range; and, passing through a rough gap and generally bearing North 120deg. East, we reached a small clump of bloodwood (*eucalyptus*) trees in a valley, with a shallow watercourse trending South-Westerly. As there was a little half-dry herbage and the spot was free from stones, I decided at 4 p.m. to camp for the night, having travelled four (4) miles on the latter course and sixteen (16) for the day. The Timperley Range is a succession of table-tops, with bluff points and escarpments of hard sandstone overlying limestone. It is chiefly clothed with mulga. Mt. Hosken, which forms a capital landmark, bears from camp North 261deg. East. Another similar range lies four (4) miles Easterly from here, with a conspicuous table hill, which bears North 130deg. East.

Tuesday, August 11.—Getting a good start this morning, we travelled up the valley bearing North 36deg. East, and at three (3) miles crossed some low mulga-crowned ridges, which apparently connect the two ranges mentioned yesterday. Continued on same course over generally level, open, mulga country with good soil and, for the most part, stony surface and fair grass. At nine (9) miles we saw a clump of green trees ahead, and found them to be bloodwoods in a wide shallow watercourse, trending North or North-West, and apparently ceasing here. There were corellas, galahs, and crested bronzewing pigeons; the latter were feeding on the seeds of the prickly acacia, of which there is a small but very luxuriant patch. Believing that water was not far distant, I spent an hour in search, but without success. Having travelled about one (1) mile North, here I again continued on my former course of North 36deg. East, and almost immediately we saw a dark column of smoke about one (1) mile South-Easterly. No doubt this was caused by a native, but whether as a signal to notify our presence to others or otherwise, I cannot say. Emu and kangaroo tracks are very numerous in this locality, and several of the latter, red in colour, were seen in the mulga. Still crossing open mulga ridges or flats, fairly grassed, but for the most part very stony, we noted the presence of finches, doves, and parrots. At sixteen (16) miles on our left was an isolated, round, mulga-clothed hill in a valley, with ridges of sandstone to the Northward. These latter extend Easterly, and Sir John Forrest must have passed through them during his exploration in 1874, as we are now nearing Mt. Bates on his route.

At twenty (20) miles, seeing no hope of anything better than some mulga and a few bushes, we camped on stony ground. Another smoke was visible from camp a few miles to Eastward. One of the camels is rather footsore, but I hope it is nothing serious.

Latitude at camp, 25deg. 45min. 14sec. Barometer, at 4 p.m., 28.20. Thermometer, 75deg.

Both yesterday and to-day we saw, along our traverse, a great deal of the dreaded poison plant before described.

Wednesday, August 12.—Altered our course and bore North 90deg. East for two (2) miles, when we struck the large brook mentioned by Sir John Forrest as trending North-Easterly. Following the channel, which was not well-defined, being a succession of rocky water-holes (dry) with intersecting belts of bloodwoods, we travelled on a general bearing of North 45deg. East, noting in places some large tea-tree, clay conglomerate, and limestone outcrops. At two (2) miles we found a nice hole of water, which will last a month in its present condition, and, when full, several months. A rather remarkable hill, probably Mt. Bates, is exactly due North of this water, and about three (3) miles off. Passed, at five and a-half (5½) miles, another similar hole of water with tea-tree on its banks. Seeing no marked tree, I continued on for two and a-half (2½) miles further, the channel gradually becoming salt; and, finding myself in the vicinity of a samphire marsh, I decided to return to the last water seen. Just before my decision I had noticed a smoke on the creek, and going quietly towards it I saw a native and his gin. They were so busily employed hollowing a piece of wood into a dish that they did not see me approach. However, their dingo was on the alert, so, when within fifty (50) yards, I called and endeavoured to persuade them to stay, but without avail, as they bolted off into the mulga scrub, the gin in the rear, calling wildly to her gallant spouse. They left all their implements of war, which we deemed it best to leave undisturbed.

On our way back to the water-hole, and whilst passing through a belt of mulga, we suddenly came face to face with four (4) young warriors running our trail. They also bolted into the mulga, but, dismounting and calling to them, I persuaded them to halt, and we exchanged greetings. They returned with us to the water-hole, where I found the tree (corkbark) marked by Sir John Forrest in 1874, during his memorable trip across the Colony to the overland telegraph line in South Australia. It is in

most wonderful preservation on the North side of the creek, close by the waterhole, and marked on the North-East side of the tree ^{F.}₅₂. I marked the South-West side ^{L.A.W}₂. Mount Bates bears North 278deg. East, and is about two (2) miles distant. Another prominent table-top hill bears North 22deg. East, and is about three and a half ($3\frac{1}{2}$) miles distant, whilst a similar hill at the Northern end of a range bears North 154deg. East. These hills and ranges are chiefly clothed with mulga (*acacia aneura*). While I was busy marking the tree two of the natives disappeared, and an hour later returned with three (3) gins, whom they invited us to keep. They then bolted off into some mulga, where they sat down and peered at us through the bushes. The gins were small, weedy-looking women, excessively afraid, and trembling from head to foot. Their teeth chattered when they attempted to speak. We decorated them with a shirt apiece, and giving them some food, intimated that they could join their lawful lords and masters. They ran off, glad to escape, and looking very funny in their new dress. The men, however, were not so easily put off, and, quickly stripping the gins of the shirts, they brought them back again, possibly with a hope of getting further gifts. Giving them some handkerchiefs, I cleared them all out of camp for the night. They knew no English, and the only word I found useful, from memory of the language of the Murchison tribe, was "bubba," which means water.

I make the latitude here, by sextant and stars (two North and two South), 25deg. 42min. 57sec. South.

Thursday, August 13.—The natives camped close to us last night, and two (2) of them came to accompany us this morning, but on ascertaining the direction we were taking they became greatly alarmed, and wished, evidently, to explain to us that there was no water in that direction. They tried hard to induce me to alter our course; to go first East and then North-West. After accompanying us for six (6) miles, they left us, being evidently on the boundary of their country.

Leaving camp at 7:40 a.m. and travelling North 20deg. East, we passed the table-top hill noted yesterday at three and a half ($3\frac{1}{2}$) miles, going thence North-East over red sandridges, and porcupine and saltbush flats. At eight (8) miles we ascended a high sandridge to obtain a view, and were surprised to see a large salt lake* on our left and several salt pans on our right, extending towards the salt marsh mentioned by Sir John Forrest. Took following bearings from here: Mag.—Mt. Bates, North 216deg. East. Hill passed at three and a-half ($3\frac{1}{2}$) miles, North 227deg. East. Two conspicuous hills at North-East end of lake, North 40deg. East. These latter I have called The "Keartland Hills," after Mr. G. A. Keartland, Naturalist of this Expedition.

Now bearing North 48deg. East. We travelled for five (5) miles along this high sandridge, the lake close by being hidden from view. Slightly altering our course to North 40deg. East, we crossed the sandridge at a low spot and followed the shore of the lake for three (3) miles to its most North-East point, where the Keartland Hills were one (1) mile on our left. From this point I noticed a very remarkable flat-topped hill (Mt. Archie) with sheer face at either end, bearing North 94deg. East mag. and about twelve (12) miles distant. On the shores of the lake we saw gypsum mounds and the desert oak (*Casuarina decasneana*).

At eighteen (18) miles from camp we crossed a stony flat, and at twenty-two (22) miles a low mulga and porcupine-clothed range of clay rock, which trends in a North-West direction towards a belt or range of table-top hills about eight (8) miles distant. We camped on the North side of this low range on poor camel feed, having seen none other for the last six (6) miles. Near camp I disturbed two (2) lowans, but, with the exception of one (1) eaglehawk, we saw no other sign of bird life after the natives left us this morning. Noted currajongs and native poplars during the day.

Latitude at camp, 25deg. 28min. 21sec. South.

Friday, August 14.—We were up before daybreak this morning, thus getting an early start. For the whole distance continued same course (North 40deg. East) over sandridges, some of them very steep, bearing West-North-West and East-South-East.

These ridges are clothed with a few stunted desert gums (*eucalyptus eudesmioides*) and bloodwoods, some wattle bushes (*acacia*), native poplars, quondongs, and a few currajong trees in the flats. There was nothing to prove that natives had ever been in this country; and the only signs of bird life were in the shape of two (2) crows and an eaglehawk.

At 2 p.m. the camels were showing signs of distress, owing to the number of sandridges they had to encounter, and three (3) of the number were carrying over 600lbs. weight (water and kegs, etc.), so I decided to camp on a few quondongs and native poplars, for there seemed no prospect of getting anything better. We noted, as we travelled along, a few low mulga-clothed ridges of sandstone overlying limestone. From the tops of the highest sandridges at camp we had, in all directions, a most wretched view, nothing but red sandridges being visible for many miles.

Travelled for day nineteen (19) miles. Barometer, at 4 p.m., 28.62. Latitude at camp, 25deg. 16min. 19sec. South.

Saturday, August 15.—We were obliged to tie the camels up last night, as they were dissatisfied, and soon attempted to make off.

We got off camp at 7:20 a.m., travelling still on same course over the same class of wretched country as we encountered yesterday, the ridges generally trending 20deg. North-West but steep, and, in places, irregular, making our progress slow. At six (6) miles we crossed a low, mulga-clothed ridge of clay rock, capped with quartzite, and bearing North-West and South-East, but we soon entered sandridges again. At fourteen (14) miles passed some more of these mulga ridges close by, and here noted, in the flats, limestone, the sandridges becoming lower and less in number. Altered course here to North 30deg. East for a distant smoke seen, probably a native's fire, which sprang up almost in front of us. A

* Lake Buchanan.

large valley now on our left, trending East and West and about two (2) miles wide, is conspicuous from here.

At twenty and a half ($20\frac{1}{2}$) miles for the day we camped in the valley in a small belt of desert gum trees, a small, rocky, bluff-like point, being about three (3) miles distant and due North of camp. This valley is 1,450 feet above sea level, and there are large quantities of limestone rock on the surface in parts covered with sand, the vegetation being chiefly wattle-bush (*acacia*) and porcupine.

There are two (2) varieties of small, wallaby-like animals to be seen about this locality. One species is brown in colour, with straight hair and tail; the other, lighter in colour, larger, and with a curled tail.

Barometer, at camp at 4 p.m., 28.68.

Latitude at camp, 25deg. 2min. 19sec. South.

Until to-day neither tracks nor any signs of natives had been met with since we parted with the Mt. Bates tribe, and I believe that the intervening country we have just passed over divides separate tribes.

The valley has the appearance of being a favourable spot for sinking for water supplies.

Sunday, August 16.—Resuming our journey, and still on the same course, we crossed the valley at three (3) miles, and here noticed a small, narrow, salt lagoon close on our right, with flats of samphire a small watercourse emptying into it from the East. Continuing on over gradually rising limestone country, we reached a high point at six (6) miles; mallee (*eucalyptus*), porcupine, and clay-pans here. A eight (8) miles a dark-looking range (Hutton Range) was visible on our course, about twelve (12) or fourteen (14) miles in advance.

Continuing our march over low gravelly ridges with mulga, and low sandridges with limestone in the flats, porcupine everywhere, and scattered wattle-bush (*acacia*), we reached, at twelve (12) miles, dense thickets of mulga (*acacia aneura*) about one (1) mile South-West of the highest point of the range, which is of clay-rock, capped with quartzite and conglomerate, and mulga clothed.

Mr. Jones remained in camp whilst Bejah joined me in a search for water. We found the range flat on top, with escarpments on either side. After walking about five (5) miles, we returned to camp unsuccessful, although we saw fresh tracks of some kangaroos. However, we were fortunate in finding a low spot or saddle, by means of which we shall be able to get the caravan through the range to-morrow. From the summit another low range or ridge, with a bluff end facing East and bearing about North-East, is visible, and this must be in the vicinity of "Buzzoe's Grave," on Mr. Ernest Giles' route from the Murchison to the Musgrave Range. This range is about 1,800 feet above sea level, but insignificant in elevation above its own base.

Latitude at camp by observation with sextant, 24deg. 46min. 39sec. South.

Monday, August 17.—Now bearing North 52deg. East, we crossed over the low saddle of the range which trends North-West and South-East, and at five (5) miles reached a valley on the North side, where the vegetation was very green, evidencing some recent rain. There are some nice bloodwoods here, also native poplars, herbage, and the usual grass and porcupine. This valley forms a watercourse along the foot of the range and falls towards the North-West. We saw large numbers of shell parrots and finches, all flying in a South-Easterly direction. As it was early in the day, I concluded they must be going to water, so determined to form a camp here and make a further search. Leaving Bejah in camp, Mr. Jones and I travelled on a bearing of North 130deg. East mag., crossing the range in a gap at five (5) miles, and thence on to a nice belt of bloodwoods in a flat, which we reached at eight (8) miles. Here a mulga creek, trending Westerly from the range, emptied itself. Birds coming from the direction of camp continued to fly over our heads for the whole distance, but the further we travelled the fewer we saw. Following the creek up to the range, we saw several places, now dry, where natives had been getting water, and also old encampments, but the creek was as dry as a limekiln, and split up into various small channels, as we entered the range. Concluding that we had been travelling on a "wild-goose chase," we crossed over the range and returned to camp, finding *en route* some excellent green herbage (parakylia and water-bush). Gathering a large quantity, we tied it on our camels and took it to camp. In my opinion, the water must be somewhere to the North-West, and the birds seen this morning were, in all probability, leaving it and flying out to some favourite feeding-ground.

Bejah reported, "Plenty poison plant at camp," and had been busying himself in pulling and burning all he could find. Consequently we tied the camels up and fed them with what Mr. Jones and myself had gathered.

Travelled for day twenty-three (23) miles.

Tuesday, August 18.—This morning I walked down the valley in search of water, but found none, although I saw some doves and a kingfisher. Returning to camp, we packed the camels and moved to the spot where we found the green herbage yesterday. This rest on good soft herbage, containing a large percentage of moisture, will, I hope, enable us to push on for a considerable time without encroaching on our water supply in the kegs. Three of the camels appear very thirsty, being unaccustomed to do without a drink for more than a day or two. Saw a distant smoke bearing North 110deg. East mag. There are a number of finches and some doves flying about among the herbage and, I fancy, extracting moisture sufficient for their requirements. Some beautiful everlasting flowers—dark purple pea, and small, thick clusters of white, sweet-smelling blossom resembling snowballs—are scattered over this valley.

During the afternoon Bejah and myself walked about the range, but returned, after a six miles' tramp, without finding water. We saw plenty of poison plant, which, in every instance, was on stony or gravelly ground.

This evening we gathered several hundred weight of herbage, as I purpose again tying the camels up at night.

Latitude at camp, 24deg. 44min. 44sec. South.

Wednesday, August 19.—As the days are becoming much warmer towards afternoon, I have determined upon getting away earlier in the morning.

Started at six o'clock, bearing North 41deg. East, over gravelly slopes of mulga and porcupine—good going for camels for the first seven miles. Then, on our right, we noted a forest of large bloodwoods (*eucalyptus*), with beautiful, green foliage. At eight (8) miles, on rising ground, the vegetation, luxuriant in growth, was of herbage such as waterbush, parakylia, and wildflowers—an indication that there has been a good rain here a few months since. At nine (9) miles the bluff point seen on the 16th inst. was visible, with a mulga-clothed hill or ridge on its East. A small creek, dividing the two and running Southward, empties itself among the bloodwoods and porcupine in the valley we have just crossed. Altered course to North 7deg. East, and, steering direct for the bluff point, we reached it in five (5) miles on this bearing. I make this point the position of Mr. Ernest Giles' "Buzzoe's Grave," and of the small creek or watercourse at which he obtained a scanty supply of water. From the summit of the bluff was also noticeable the low, dark ridge some miles to the Eastward, which is also a feature on his map. From his description of this spot, I did not anticipate finding water here unless our arrival should happen a few days after rain; so I was not disappointed.

Continuing our journey, and now bearing North 21deg. East, we passed through another gap similar in description to the last—a single, low hill on our East, and clay-rock escarpments and table-tops, capped with quartzite, to the West. We then encountered sandridges and lumpy porcupine flats; but travelling until, at $4\frac{1}{2}$ miles, the escarpments to the West bore off to the West and South-West. At six miles we reached a prominent hill (Mt. Madley) in the ridge, where we found some good, green herbage, so I decided to camp, rather than risk going further.

From the top of the hill, which is 1,750 feet above sea-level and 200 feet above a valley immediately to the North, similar mulga-clothed ridges or low ranges are visible to the Westward, about ten (10) miles distant, with belts of mulga, porcupine and sandridges covering the space intervening. To the North-West nothing is visible for a considerable distance but sandridges and porcupine, whilst to the North-North-East is another low range, to which I purpose proceeding to-morrow.

Fresh footprints of natives are to be seen here on the sandridges. Smokes were also seen to the North-East and East-South-East.

Travelled for day 20 miles.

Latitude by sextant, 24deg. 30min. 59sec. South.

Thursday, August 20.—The camels did well last night. Moving off camp at 6:15 a.m., and bearing North 26deg. East over jumbled sandhills and ridges, with dense porcupine in the flats, occasional wattle-bushes (*acacia*), dwarf tea-tree, a few bloodwoods, desert gums, and currajong, we travelled for nine miles, when we reached the low range seen yesterday, which is of clay-rock, rubble, or conglomerate, with low escarpments on its Southern side, and extending East, and clothed with mulga (*acacia*). Seeing some fresh footprints of natives, we wasted some time, entailing a loss of two (2) or three (3) miles, in endeavouring, unsuccessfully, to track them, in the hope of finding water. Saw one small rock-hole (dry).

Continued on same course for seven (7) miles further, and camped still in a wretched wilderness of sandridges, on some half-dozen wattle-bushes for the camels. From the top of a large currajong at camp I could see the same ridge we had crossed at nine (9) miles lying to the South-East, and about five (5) miles off.

Travelled for day nineteen (19) miles. Latitude at camp, 24deg. 19min. South.

I am feeling anxious over failure with regard to water discoveries, and the appearances here are anything but cheering. We are now about a hundred and seventy (170) miles from depôt, and one hundred and thirty (130) miles from Forrest's water at Mount Bates, with a terrible stretch of desert sandhills to face should we attempt a return. However, I have no intention of giving up hope yet, though it is most disheartening work pushing on day after day with an anticipation, yet unrealised, of seeing some likely spot for search.

Friday, August 21.—Making a very early start, we resumed our journey on same bearing. Low sandridges and dense porcupine everywhere. There is very little timber of any description. A few wattles of a long, whipstick variety with very few leaves, some stunted desert gums, and bloodwoods, occasional currajong trees, and a species of dwarf tea-tree. The porcupine, with seedstalks four (4) and five (5) feet high, presents a dazzling whiteness, and resembles, in the flats, fields of ripe corn. I find it most trying to my eyes.

After travelling five (5) miles, a smoke rose exactly on our bearing; and, as it was between 7 a.m. and 8 a.m., I feel confident that we must be approaching the vicinity of some water. We are all on foot, a practice we have adopted since leaving depôt. We usually walk the first nine (9) miles of our day's journey at the rate of $2\frac{1}{4}$ miles per hour; this helps to break the monotony of travelling, and, in addition, rests our riding camels.

Ascending a sandridge, I was surprised to see, not more than sixty (60) yards below me, several natives—three (3) men, three (3) women, and two (2) children. Calling to them, I held my hands up and tried to make them understand I meant to be friendly; but they were terror-stricken, and a general stampede ensued. One, rather bold-looking, stopped, and picking up a spear whirled it, I believe, with the intention of throwing it, but at that moment Bejah's turbaned head, followed by the head of a camel, appeared behind me, and our warrior bold was soon in advance of his brethren, a remarkably fat lubra (gin) bringing up the rear. These aborigines had, doubtless, never before seen white man or camel, and probably the sight of a panama hat and a pair of coloured glasses I was wearing to protect my eyes from the glare of the porcupine, helped to dismay them.

Immediately North of their camping place—viz., a few holes in the sand and some mouldering pieces of dead mulga, in a slight hollow where there are a few mulga trees—we found, under a tall tea-tree, 20 feet high, a well or hole which has been scraped out in a crude fashion by the natives. It is about ten (10) feet deep, wide at the surface, and running at the bottom to barely room for a large man to stand in. To prevent the loose sand from running into the shaft, the sides were dabbed with decayed vegetation, which accumulates in these drift wells. I noticed a small drain on the surface, for the purpose of conducting rain water from the natural hollow into the well, and of course came to the conclusion that it must be only a soakage supply. We spent two (2) hours in enlarging the holes, and found a very hard rock in the bottom, on which we could not make any impression. Result—about half a gallon of dirty water. There is no landmark in the vicinity, and the spot might be passed within two (2) chains without observation. Computed latitude, 24deg. 14min. 30sec.

Beyond the first sandridge to the North is a wattle-bush flat, half-a-mile wide, with limestone outcropping. Again disappointed, we continued our march at 10 a.m., still crossing countless sandridges, and at nine (9) miles from our last night's camp we reached another of those clay-rock ridges, extending East and West, with escarpments on the South side. Here we found that the Northern part of this outcrop was buried in obscurity, the sandridges having completely hidden it. Others of a similar description, but all insignificant, are to be seen to the North-West.

About a quarter of a mile West of our course are three (3) small rock-holes (dry), where there is a prominent point. Well-beaten native pads lead from a small thicket of mulga on the South to the rock-holes. Still pushing on, we reached another similar outcrop at 17 miles, escarpments also showing on South side, and covered with sandridges on the North. Altered course here; now bearing North 1deg. East, over open porcupine plains almost destitute of timber, the sandridges being lower and further apart. Travelled seven (7) miles on this course without seeing a vestige in the shape of camel fodder; then we found a small patch of waterbush (*pollichia zeylanica*) on top of a sandridge. Camped in a small clump of mulga, having pushed on for twenty-four (24) miles, in spite of our loss of time at the native well.

Whilst I took some observations for latitude at camp, Mr. Jones and Bejah went to the locality of the waterbush and collected all they could see (about three (3) cwt.). This they carried to camp for the camels, which were tied up, as usual, for the night.

Latitude 24deg. 0min. 7sec. South.

I saw here, in the mulga, a pair of most beautiful parrots; and, from Mr. Keartland's description, I conclude they are "Princess Alexandra" species.

My eyes are very painful to-night, as also are Bejah's. This I attribute to the white glare of the porcupine.

The daily strain is telling on the camels, and the outlook is anything but pleasant. The country is almost destitute of feed for them, and, deprived of water as well, we cannot hope to sustain the position much longer. However, I have exercised the strictest economy with the water with which we started from depôt, and we still have over five kegs full, not having yet used one keg. As long as I consider the camels can do without water I shall push on; but when forced to encroach on the kegs I must go no further, and, should the worst confront us, I believe, with the various patches of feed I have noted since starting, we can get back again with some, if not all, of the camels.

Saturday, August 22.—Rising at 4 a.m., we had a capital start; and, taking same course as last evening, we found travelling much improved, the sandridges being less in number, the flats more even, and the porcupine less dense. At six (6) miles we reached a high sandridge, which we found was covering a ridge or hill of clay rock, stony on North side, with cap of quartzite. A small watercourse joined others, trending North-Westerly for one (1) mile to a valley of bloodwoods, wattle (*acacia*), native plum, good herbage, and porcupine. This valley extends North-Easterly, and is the first good feed we have seen for some days. Continuing our course, we crossed the valley in three (3) miles. Then, gradually ascending, with a few sandridges on either side of us, we reached, at fifteen (15) miles, the top of another clay-rock hill, capped with quartzite. This point, about fifteen hundred (1,500) feet above sea-level and three hundred (300) feet in elevation above the valley noted at six (6) miles, is the highest crossed for some distance. It has a flat top, and some mulga and a tall species of wattle (*acacia*) crown its summit. On the North side are low escarpments and a cave with several remarkable blow-holes through its roof. I have named this hill after the faithful Bejah, who has proved himself a splendid fellow and an excellent camelman. To the North-West and about three (3) miles distant is another prominent top. The view from here is most discouraging. High red sandridges are visible for miles to the North-West and North-East.

Proceeding to a porcupine flat on the North side of the hill, where several small water channels empty themselves, we found a little feed for our small number of camels, and, the weather being decidedly warm, I determined to camp at 1 p.m., fearing to go further lest the camels should fare poorly.

Travelled for day 16 miles. Noticed during the day several recent tracks of natives going Northerly.

Latitude at camp, 23deg. 46min. 11sec. South.

After forming camp, we discovered a quantity of poison plant. We gathered and burnt all we could see, and shepherded the camels, tying them up for the night. Mr. Ernest Giles, our well-known and daring explorer, in reference to this plant, which had previously paralysed several of his camels, says in his notes that he dreaded it as the deadly upas tree. I hope we shall see no more of its kind.

My eyes are becoming worse, and it is with great difficulty that I am able to observe for latitude. Water is far too precious a commodity to be used for bathing them.

For the last two days the weather during the afternoon has been exceptionally warm for the time of year.

Sunday, August 23.—My eyes were so painful last night that I was unable to sleep. Started at 5:55 a.m., still on same course (North 1deg. East), travelling over endless sandridges of porcupine the whole of the day. The scanty vegetation consists of grevillia, a few stunted desert gums, a coarse variety of acacia (at which camels will not look), and dwarf tea-tree. At five (5) miles we reached the summit of a very high sandridge. In every direction the view was one of high sandridges and distant horizon, apparently level. The day is very hot, and the patient camels, after carrying heavy kegs of water over countless ridges of loose sand and lumpy porcupine flats, are showing signs of the severity of the task set them.

Altered course; now bearing North 11deg. East for a black-looking patch. Passing over heavy country for the whole distance, we reached, at thirteen (13) miles, a small, black hill of clay conglomerate, hidden on the North side by sandridges higher than itself, and only conspicuous from the South for four (4) or five (5) miles. Here the exhausted condition of the camels became so apparent that I feared we could not go on much further, and indeed the day's adventure had been most trying for us all; but, as we had so far not seen a bite of feed, I was obliged to push on a little longer. Again altering our course, we travelled North 1deg. East over very high and numerous sandridges, for three (3) miles. Then, bearing North 300deg. East down a valley to look for feed, we travelled two (2) miles, compelled, at last, to camp where there were only a few small bushes of a kind the camels will not touch. One camel is very lame to-night, and another slightly so, and all are badly in need of water. I am feeling very anxious regarding our position, as we are now separated from Mt. Bates water by nearly two hundred (200) miles of terrible wilderness. But I shall try one more day's venture further afield, and, if unsuccessful, shall then consider what is best to be done.

Travelled for day 23 miles.

Latitude at camp, 23deg. 27min. 29sec. South.

My eyes are most painful, and I am afraid they may get so that I cannot use them at all.

Monday, August 24.—Bejah shepherded his camels until midnight, and then tied them up. This morning he would not eat any breakfast; and said, "Camel no eat, me no eat." The poor animals look like starved kangaroo dogs this morning.

Turning out at 3:30 a.m., we got off very early; and, bearing North 300deg. East, we reached, at four (4) miles, a low, conglomerate, clay ridge, surrounded by, and almost covered up with, sandridges. Not a vestige of feed was to be seen here, and no hills of any height are visible for at least thirty (30) miles. Glaring red sand extends in all directions, and the outlook appears most hopeless. Although but 9 a.m., it is intensely hot. The vegetation consists of a few low grevillia and stunted, chiefly perished, desert gums.

Altered course to North 315deg. East, and at 11 a.m. we reached more high red sandridges, having done thirteen (13) miles for the day. The camels are quite done up; and, as there is a little water-bush here, on the tops of the ridges, I have determined to camp.

Before the camels will travel further, I find I must give them half the water we have in the kegs and this will considerably lighten their loads.

We are now about two hundred and fifty (250) miles from depôt, and I dread the idea of having to return by the route we have come, but I feel that the most direct course is the only one to pursue; besides I noted on our outward tract one or two patches of green herbage, and these, together with the water we shall have remaining to-morrow, will, I hope, see us through to Mt. Bates, travelling by night.

I feel thoroughly disgusted with my trip so far, and, for the present, rather disheartened. Everything seems against us—sandridges, porcupine, poison plant, sore eyes, and no water discoveries. On starting from Lake Way last June I had great hope of finding some good country about this latitude, but now I am afraid those hopes are "smouldering in the ashes of despair!"

Latitude at camp, 23deg. 19min. 9sec. South.

If no water is discovered between here and Mt. Bates we shall most probably return to depôt for supplies, and make a fresh start in some other direction. It is now getting late in the year, and I am afraid, under existing circumstances, that I shall find great difficulty in getting the whole of my party and equipment through to the Fitzroy River.

Tuesday, August 25.—Rising long before daylight, after a most restless night, we were moving at 5 a.m. Now bearing North 192deg. East, over wretched country. Crossed, at four (4) miles, a low valley with limestone outcropping and tea-tree up to fifteen (15) feet high, and trending about East and West. A mile further on, while walking a little in advance of the caravan, my attention was drawn to the well-known whirr of the crested bronzewing or wirewing pigeon. I saw the bird flying quickly to the Westward. Although so often disappointed in following birds on the chance of finding water, this bird, on account of the rate at which it was flying, gave me fresh hope, and I accordingly ascended a high sandridge over which I noticed it dip. Noting therefrom a remarkably green belt of tall tea-tree, I called to Mr. Jones, who was in charge of the camels, to halt and come over. Proceeding to the clump of tea-tree, we saw several pigeons about it, but no water, although we found old camping-places of natives, and saw limestone outcropping in the gully. However, seeing some good camel food, I determined to camp for the day and institute a careful search. Mr. Jones returned to Bejah to bring the camels over, whilst I followed down a small samphire lead to the North-West. About ten (10) chains down from the clump of tall tea-tree I came to a patch of the same species, only stunted in growth and about four (4) chains wide. In this was a small hollow, at the bottom of which I found a native well filled with sand and debris. The earth was damp on the top, and I came to the conclusion that the pigeons had been sucking the water from it. The caravan arriving, we set to work at once and found we had discovered a

really good well of water, slightly saline, but good to drink. We sank through sand for six (6) feet, and then through rubble sandstone for two (2) feet, and the water rose about three (3) feet during the afternoon. I need hardly say how delighted we all were at our good fortune. I felt very thankful to be relieved from the anxiety of the last four (4) days. This water is almost in the heart of the desert, and midway between our depôt and Joanna Spring, on Colonel Warburton's route. I have called it "Midway Well." We stayed here for the remainder of the day. The camels enjoyed themselves immensely, and we indulged in the rare luxury of a bath, after fourteen (14) days without a wash of any description.

During the afternoon I fired a shot at a pigeon, breaking its legs, but it got away. It afterwards appeared to me a cruel return to perhaps the identical bird that led us to this haven of rest. For we should most certainly have passed it by but for the bird. In fact, it could easily be passed at a distance of three (3) chains without observation. But "man's hand is ever slow to spare and ever ready to strike."

At the well there is a large mound of earth and *débris*, apparently the accumulation of many years, and caused by the natives through the removal of rubbish and silt from the hole. From the hundreds of old camping places on the surrounding sandridges, I am of the opinion that this is a permanent water and a summer resort of the aborigines. However, the well has not been in use for a long period.

Owing to the weakness of my eyes, I had difficulty in using the sextant. I make the latitude 23deg. 23min. South and the computed longitude 123deg. 59min. East.

Wednesday, August 26.—Having had such excellent good fortune yesterday, I decided to begin to day mapping the country to the South-West, thence travelling Southerly to depôt. It will be further to return this way, but my mission is to map in all blank spaces, and not merely to make a bee-line through the country. However, owing to our late start from Adelaide, no delay must occur, and I must get the main party and impedimenta through to this well before the season advances and the heat becomes greater. As it is, the heavily-laden camels will find it a stiff task to tackle again the terrible extent of sandridges we have crossed between here and depôt.

Watered camels and made a start at 8:30 a.m., bearing North 246deg. East, with the intention of travelling about this course to Mr. Ernest Giles' route, and thence Southerly for depôt. We crossed over a wretched desert country for the whole day, the sandridges in places being one hundred (100) feet high. Saw no camel feed, but plenty of poison plant, until, at fourteen (14) miles, we camped on a few wattle bushes and native poplars. The day was very hot. Tied camels up for the night.

Thursday, August 27.—Started at 5:30 a.m. and still on same course; travelled over a jumble of sandridges for four (4) miles, when I noted a valley in front of us with small saline flats and tea-tree. Half-a-mile further on and half-a-mile to the right appeared another saline flat or claypan, to which we proceeded. Seeing two (2) corella parrots and some pigeons, we made a search and found a well filled with *débris*, but with water near the surface, which was very brackish and bitter. There were flocks of shell parrots flying over us, and going from East to West. There must be a good water not far distant, but it is impossible to say whether the birds are going to or from water. From a high sandridge I could see a lagoon (apparently salt) a few miles distant, and bearing North 305deg. East. There is abundance of limestone here, and good camel feed. Numbers of quandong (or native peach trees) abound, bearing the most luxuriant fruit I have ever seen. Some of the peaches are as large as egg-plums. From one (1) tree we almost filled a 50lb. flour-bag, without by any means stripping it of all its fruit. We are now really crossing a valley of low sandridges and limestone outcrops, wooded with mallee, wattle bushes, grevillia, tea-tree, and porcupine, which appears to grow anywhere. At seven (7) miles we crossed a shallow samphire and saltbush lead trending in the direction of the lagoon. More high, red sandridges at nine (9) miles. At twelve (12) miles we found another open flat of samphire and saltbush a half-mile on our right (North-West), with a larger valley in front of us. Finding good camel feed, I decided to camp at 11 a.m. in a belt of tea-tree. There is quandong here also, and a large species of dark wattle (*acaciá*).

Latitude at camp, 23deg. 31min. 20sec. South.

Friday, August 28.—Allowed the camels to feed at 3:30 a.m., and, breakfasting, we again pushed on. Following same course, we crossed the valley, which shows gypsum and limestone, at two (2) miles, noticing mallee (*eucalyptus*), tea-tree, quandong with excellent fruit, grevillia, and a little coarse grass. We then toiled over sandridges and through porcupine for the remainder of the day. For the first ten (10) miles the ridges were very high, some over one hundred (100) feet, and crowned with loose, red drift. We saw no feed for the last fifteen (15) miles, and camped at twenty-two (22) miles on a few wattle bushes for the camels.

At fourteen (14) miles I was surprised to see a very remarkable dome or cone-shaped hill (Cromer Cone) of sandstone, standing alone a few miles to the North-West; and also a small peak at the end of a low range, which is partly covered by sandridges. From camp another low range, about fifteen (15) miles distant, bears North 305deg. East.

We have seen neither smokes nor tracks of natives for a week—a sure sign that there are not any in the country at present, as they are continually burning the country wherever they are located.

Saturday, August 29.—Started at 6:40 a.m.; still on same bearing, crossing same arid and desolate-looking country. At five (5) miles, from the summit of a high sandridge, noticed hills and ranges in front of us. Almost due West was a bluff or headland at the end of a bold-looking hill in a long range (Runton Range), with three (3) conspicuous detached hills to the West-South-West. There is a very distant point bearing North 235deg. East, with a smaller range intercepting us.

Altered our course to North 237deg. East, and travelling eleven (11) miles on this course, we reached a small dry claypan at foot of range before noted. There was some nice young green buckbush around the claypan, so we took advantage of it and camped early.

Travelled for day sixteen (16) miles.

The top of the range is of sandstone, partly covered with drift-sand, and capped with quartzite. It was three-quarters ($\frac{3}{4}$) of a mile from camp.

From here we got a capital view of the surrounding country, the range bearing East-South-East and West-North-West, with a gap half ($\frac{1}{2}$) a-mile to West. There are several detached hills and many hillocks, especially on the Southern side of the range. I took the following bearings and made a sketch showing the most prominent features:—Magnetic North 175deg. East to a remarkable, long, bare hill, two (2) miles off. North 190deg. East, Western headland (Constance Headland) of a long and apparently flat-topped range about the same strike as this. North 245deg. East to a prominent headland in same range. North 268deg. East to three (3) conspicuous hills (Lady Victoria Group) noted yesterday. North 300deg. East to the bold headland (Sir Fowell Headland) in range also seen yesterday.

The lagoon, in a low valley, looks promising. It is apparently surrounded by green trees and shrubs.

Latitude at camp, 23deg. 46min. 39sec. South.

We saw the tracks of two (2) natives a few miles from our camping place of to-day.

I made a sketch showing natural features seen from this range, and the names given to them are those of His Excellency Sir Thomas Fowell Buxton, Lady Victoria Buxton, Miss Constance Buxton, Mr. J. G. Russell, Commissioner of Taxes and Insolvency, and Mr. A. F. Calvert, promoter of this expedition.

Lagoon (near centre of view).
Constance Headland. Calvert Range. Lady Victoria Group (the three hills).
Sir Fowell Headland. Buxton Range.



View looking South-West from Camp (August 29th).

Sunday, August 30.—Leaving the small clay pan at 6 a.m., we passed, at one (1) mile, through the gap in the range, which is half ($\frac{1}{2}$) a-mile on right of bearing. Then, bearing North 246deg. East for the lagoon seen yesterday, we crossed, at three and four (3 and 4) miles, the North end of a gypsum lagoon, which was dry, and about one (1) mile in extent. Travelling thence over lumpy porcupine and low sand-ridges, we found ourselves, at six (6) miles, out on an open, marshy flat, bearing samphire and a little salt bush. This extends Southerly towards the headland, and apparently right up to the large, bold, bluff hill in the range to the Northward. It was quite a relief to get clear of the sandridges and porcupine, even for a few miles. At nine (9) miles we reached the supposed water, but found it to be a small, dry, salt lake bed, with small, salt watercourses coming in from the South and North-North-East. Then, continuing our journey North 241deg. East for the point seen in range on the 29th inst., we soon found ourselves in sandridges again. At eleven (11) miles another flat of saltbush and samphire occurred, extending towards the group of three prominent hills on our right. From here, on to fifteen (15) miles, we noted good class of wattle-bush in the troughs between the ridges, but after that not a vestige that camels would eat. They extended very nearly to the foot of the range, becoming more and more irregular and jumbled as we approached it. The camels knocked up, and we had a difficult task to get them along.

We found no feed until we got right under the range itself, which we reached at 4 p.m., having travelled twenty-four (24) miles for the day. Here we found excellent soft, green herbage, and formed our camp one (1) mile North-West from the point of observation from yesterday's camp.

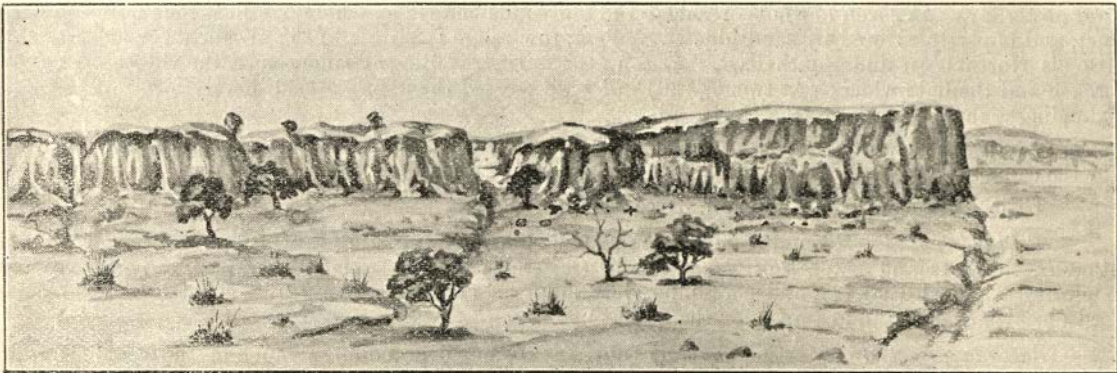
This range (Calvert Range), which is about thirteen (13) miles direct from the salt lake visited this morning, is five hundred (500) feet higher in elevation, although now only one hundred and thirty (130) feet above its visible base. It is of sandstone, capped with quartzite rock.

Monday, August 31.—Mr. Jones and I walked about two (2) miles on foot last evening, following up a rough creek into the range, and then climbing to the summit, but we found no water. Finding the herbage so luxuriant, though small in extent, I decided to camp here to-day and give the weary camels a rest. After breakfast Mr. Jones accompanied me to the North-West in search of water. Following the foot of the range we noticed, at about one (1) mile, some green trees on the cliffs. They turned out to be small, white gums, growing from the crevices in the cliff rocks, without any visible soil. These are the first gum trees of this species (*eucalyptus redunca*) seen since we left depôt. We were disappointed in finding no water here, but noticed some finches and cockatoos ten (10) chains further along the range at the foot of which were two (2) more small gum trees. Here I found a cave, and seeing finches fly out as I approached, we went in and found a soakage of fresh water resting in shallow basins on slabs of sandstone rock, some of which are very large and weigh many tons. Whilst Mr. Jones took some photographs and made copies of native rock-drawings, I ascended the range and took bearings to fix the positions of several of the prominent points seen on the 29th inst. Also noted from here a range about twenty-five (25) miles to the North-West, with another about midway. Along the range to the North-West a very prominent bold headland, with sheer face, is visible, about four (4) miles distant. This I have named "Russell Headland," after Mr. J. G. Russell, Commissioner of Taxes and Insolvency for South Australia.

Albert Caves.

Skeleton Pass.

Russell Headland.



+ Native Encampment

View showing North-Eastern Side of the Calvert Range. (Vide Aug. 31st.)

From S.W. the range is almost hidden by sand ridges extending to summit.

Returning to camp, we arranged for Bejah to bring the camels round to the cave for the water of which we found but a limited supply, getting only about six (6) gallons apiece for the thirsty animals. The soakage comes from the range through the enormous slabs of sandstone, and resting in the shallow basins until it overflows, disappears in rocky ground at the foot of the range. The supply is small, and may not last for longer than two or three (2 or 3) months after rain. I marked one of the two gum trees at the entrance of the cave thus:— $\frac{L.A.W.}{3}$ inside diamond blaze. The range, which I have named after the promoter of this expedition, is partially mulga-clothed, and is scarcely visible from the South side being hidden by drift sandridges, which extend to its summit.

Bejah returned to camp with the camels whilst Mr. Jones and I walked along the range towards the bold headland to get a photograph of it. At one (1) mile we passed a gap or pass extending through the range to the Southward. Here we noted the "figus" growing from the rocks, and near the entrance found an old native encampment. We were surprised to find here the skeleton of a human being, in a hollow scraped out in the sand, with old dry boughs pushed into the ground, presumably to form a shade. The bones and skull were bleached, the latter being perfect except for one (1) missing tooth, which we found afterwards. I suppose this to be the skeleton of an aboriginal, but it is the first instance in which I have known natives to leave their dead without burial of some kind. It is possible that, the water failing, the natives may have been compelled to go away, leaving an invalid behind. Mr. Jones took possession of the skull for scientific purposes. We returned to camp, having walked eleven (11) miles to-day, in spite of the loose sand, which makes walking difficult. We saw two (2) kangaroos this afternoon, but were unable to get a shot at them.

Found latitude, by observation at camp, 23deg. 58min. 55sec. South.

Tuesday, Sept. 1.—The camels having improved vastly in appearance whilst on the good feed, we made a start at 6:30 a.m., following North-Westerly along the foot of the range to the gap seen yesterday which I have named "Skeleton Pass," and bearing thence North 246deg. East over sandridges and porcupine, with a few sandstone outcrops. We cleared the range at five (5) miles from camp, and at eleven (11) miles passed close by another mulga-clothed hill on our right. Then came jumbles of

sandruges and lumpy porcupine flats, with native poplars, a few desert gums, and quandong, until, at seventeen miles, we camped on a small patch of fair feed.

Latitude, 24deg. 3min. 16sec. South.

Wednesday, Sept. 2.—We allowed the camels to go loose all night, as they were not in want of water.

Started at 6:20 a.m., still on same course. Plodding along on foot, a practice we have pursued throughout this trip for the first nine (9) miles of each day's journey, we found the sandridges as difficult to cross as ever. At six (6) miles, altered course to North 221deg. East for a low, mulga-crowned ridge. From here onward we had limestone in the flats and porcupine in the flats and on the sandridges as usual; also native poplar, mallee, quandong, tall tea-tree, some desert gums, and grass trees (*zanthorrhoea*). The sandridges mounted higher and higher, reaching the very summit of the sandstone ridge, which we reached at fourteen (14) miles. We were now near Mr. Ernest Giles' route from the Murchison River to the Musgrave Ranges. To the Southward of this ridge were small samphire flats or marshes, and dwarf tea-tree. The view was not promising from here. To the South-West were two (2) low, flat-topped hills, about five and ten (5 and 10) miles distant; I have named these "Trainor Hills," after James Trainor, a member of this Expedition.

A low point of another ridge bears North 193deg. East, with sandridges intervening. We altered our course to this bearing and continued onward for six (6) miles again, noting limestone outcropping in the flats. Natives had evidently not been in this part of the country for a long period, as the signs which usually betoken their presence were entirely absent. Noticed two (2) species of porcupine wallabies to-day, and numbers of them started from their lairs as we moved along.

Travelled for day about twenty (20) miles.

Thursday, Sept. 3.—Having tied the camels up last night, we managed to get off camp at 5:30 a.m., and, bearing North 186deg. East, we were still crossing steep, sandridge country similar to that passed over yesterday. At seven (7) miles reached the low sandstone ridge, which has limestone outcropping at foot, and is partly covered by sandridges. A long, low range is visible to the Westward, and apparently extends North-West and South-East. At ten (10) miles travelling became easier, the ridges being more broken and the flats wider. At twenty (20) miles we crossed the Western end of very low, mulga ridges, extending a short distance to the North-East.

Camped at twenty-three (23) miles, still in sandridges and porcupine, with some fair bush feed for the camels.

Latitude at camp, 24deg. 34min. 31sec. South.

Friday, Sept. 4.—Resuming our march at 5:25 a.m., still pursuing same course, we had more limestone in the flats and patches of dead bunch grass, also mallee (*eucalyptus*), quandong, tall tea-tree, poplar, wattle-bush (*acacia*), and porcupine. At nineteen (19) miles we found a patch of good camel feed (*prickly acacia*), and camped for the day at noon.

Saturday, Sept. 5.—Starting on same course at 6 a.m., over country much of the same class, but easier of transit than that passed over yesterday, we noted several low, mulga-crowned ridges of sandstone. At seven (7) miles we found a small, dry rock-hole and some old encampments of natives. At eleven (11) miles we cleared the sandridges and crossed a saddle in a range of low hills and ridges of red sandstone, partly bare and partly mulga-clothed. It extended some distance on either side of us, and in it are some conspicuous tops. I have named this "Brassey Range," after Lord Brassey, the Governor of Victoria. A bloodwood creek or watercourse, trending Easterly I have named "Sunbeam Creek." There was excellent kangaroo grass, with other grasses growing along its course. At fourteen (14) miles we crossed another saddle and shallow, bloodwood watercourse, trending Westerly, and then passed through a valley with patches of limestone and red sandstone hills and ridges on either side of us. Noted fair pasture along here. Crossing another saddle, at 18 miles, with a large hill immediately to the East, we descended into a large valley of porcupine and a few low sandridges. In this vicinity were native poplars, belts of mulga (*acacia*), and a little grass; also large quantities of travertine limestone. At twenty (20) miles we reached the lowest part of the valley, which has the appearance of having been, at one time, a river bed. There is abundance of limestone rock here, belts of mulga in shallow watercourses, patches of saltbush, grass, bushes, and porcupine. Camping here, Bejah and I walked about one and a-half (1½) miles from camp along the valley to the Eastward, to a low hill of hornblendic rock with kangaroo grass and porcupine growing to its summit. We noted several peculiar hillocks of limestone from twelve (12) to fifteen (15) feet high in the valley, with some large beefwood trees growing from their tops. I have the opinion that water would be found here, at shallow depths, by sinking. Some of the beefwood trees in the vicinity are very luxuriant in growth, and I have been informed that in the Murchison country, on Coodardy Run where these trees ("Yarra") are found, water can be had at shallow depths. In that district the natives call those waters "Yarra-bubba."

From the top of the hill I took a round of bearings, noting several conspicuous hills and a prominent top (Mt. Normanhurst) in the Brassey Range, bearing North 72deg. East magnetic. To the South-East is a low, hilly range, about fifteen (15) miles distant, towards which this valley extends. To the North-West is another conspicuous hill (Mt. Bunday), about six (6) miles distant. To-day we saw recent tracks of natives and kangaroos, and, at camp, seven (7) cockatoos, which were feeding upon an enormous bunch of seed-pods at the crown of a native poplar. Some of these bunches, which make the tree gracefully bend its head, weigh, when green, as much as a hundredweight, and as a food for camels are, in dry country, invaluable, being fully fifty (50) per cent. water.

Latitude at camp, 25deg. 9min. 20sec. South.

Sunday, Sept. 6.—At 5:30 we continued on the same course, over gradually rising, fairly-grassed country, with a little porcupine, to a range of low hills—hornblendic, clay-rock, sandstone, and a little

limestone. Flats of bloodwoods (*eucalyptus*), poplar, and mulga thickets occurred. At two and a half ($2\frac{1}{2}$) miles I took a round of bearings. A prominent hill lay nearly due East in a range seen last evening. I have called this "Mt. Sir Gerard," after Sir Gerard Smith, Governor of Western Australia. At three (3) miles we crossed a bloodwood watercourse trending North-Easterly, with good kangaroo grass along its course. Passed through a valley for another line of hills; at six (6) miles met with a watercourse trending North-East. From here the blue-topped hill, visible from the vicinity of yesterday's camp, lay to the South-South-East; this is, probably, Mt. Moore, on Sir John Forrest's route. Crossed another line of hills at eight (8) miles, and altering our course here to North 190deg. East, entered a mulga valley of fair pasture, extending Westerly and carrying bunch and mulga grasses, patches of kangaroo grass, a little porcupine, bloodwoods, beefwoods, and a little mallee. Noted a few red sandhill on our West. At eleven (11) miles we were gently ascending over similar country, but with more porcupine, which appears to thrive anywhere, till, at eighteen (18) miles, we reached a low range of hills extending towards "Stanley Bluff," in the Parker Ranges of Sir John Forrest. From this point Stanley Bluff lies to the North-West, another high, prominent hill (Mt. Sir James) bearing South-Westerly. Altered course to North 180deg. East (due South) and passed over a valley with nice flats of good loam, well-grassed and timbered with mulga (*acacia aneura*) and bloodwoods. Camped at 1 p.m. on some dry herbage, at the foot of a large, low hill, having travelled twenty-one (21) miles for the day. Since passing a point at eleven (11) miles on yesterday's traverse the country travelled over may be termed fair pasture, with good patches.

Saw numerous tracks of natives and kangaroos throughout the day, but no water was found, nor were any likely places for search noticed.

Latitude at camp, 25deg. 26min. 41sec. South.

Monday, Sept. 7.—Started at 5:30 a.m. Continuing the last course of yesterday's traverse, we passed on through the valley, which, notwithstanding some porcupine, was well grassed and mulga-clad for three (3) miles. Then came limestone outcroppings, and sandy country with porcupine, mallee, and belts of mulga. At four (4) miles on our East was a fine clump of large bloodwoods. At six (6) miles was a stony ridge, with a prominent hill to the Eastward, about eight (8) miles distant, and another prominent top to the Westward, in a range, and from ten (10) to twelve (12) miles distant. Then, on a course through mulga thickets and patches of grass and porcupine, we came to a range (Lee Steere Range) about three hundred (300) feet high, trending East and West. We crossed tops at nine (9) and ten (10) miles, with a gum creek between the two lines of hills trending Easterly and then North-Easterly, and finally emptying itself into a large valley. The range is of clay-rock, and we noticed some small quartz outcrops. It is chiefly clad with mulga, the most Southern portion being greatest in elevation where we crossed it. Continuing the same course, we immediately descended into the large valley, which has good stock grass and mulga, and, from thirteen (13) to fifteen (15) miles, open saltbush and samphire flats, with a little Mitchell grass. These flats form a watercourse trending towards the East. In this valley we saw quartz, ironstone, and a little slate; and, in my opinion, this vicinity is worthy of the notice of prospectors. Travelled next through poor porcupine country, sighting, at sixteen (16) miles, a hill which I take to be Mt. Moore, as it tallies in appearance with the description of that mount. Passed then over rather poor country, with very dense thickets of mulga, tall wattle (*acacia*), beefwood, a little saltbush, grass, and porcupine. A few limestone rises are noticeable here. At twenty-one (21) miles a small range occurs, one (1) to two (2) miles distant to the Westward. The country then gradually rose, as, indeed, it had done since leaving the large valley, till at twenty-two (22) miles we found ourselves baulked, for the time, by its sudden fall to the South, causing cliffs twenty (20) to thirty (30) feet high, of decomposed clay (red and white), with a little mallee and mulga on the plateau. Descending to the head of a watercourse, which we followed South for two (2) miles, we camped, at 3 p.m., on poor feed for the camels, having travelled twenty-four (24) miles for the day. Experienced a hot North-East wind and cloudy sky. Saw many fresh tracks of natives, emus, and kangaroos during the day, but they all managed to keep out of sight.

To the North-West is a high hill in a range about four miles (4) distant, and North-Easterly, about six (6) miles off, is another prominent hill, apparently in the same line of range. There are numerous small clay pans here, a few sandhills, porcupine, and a little saltbush and mulga.

Tuesday, Sept. 8.—The camels fared badly last night, and, getting off camp very early, we continued on same course, passing over low slaty ranges with a little quartz, ironstone, fair flats, and watercourses of Mitchell grass, saltbush, herbage and a little mulga. At six (6) miles we rejoiced to again see the bright green foliage of a gum creek, which was coming in on our Western side, and trending in the direction of our route. Here we found a large water-hole, with about two (2) feet of water in it. The camels drank greedily, whilst we washed our tanned and dirty faces and hands. Slightly altering our course here, and bearing North 175deg. East, we followed down the channel banks, and suddenly came upon the thirteen (13) camels that I had left in my cousin's charge when parting from the main body last month. They were all looking well, some quite fat, and nearly all signs of mange had gone. Bejah was so delighted at seeing them that he left the poor brutes he was leading and ran off to the others, talking to and playing with them in a most excited manner. No doubt to him it was the next best thing to meeting a countryman. Continuing on down the creek, we soon saw, in the distance, two figures approaching us. They were my cousin and Said Ameer, coming on their usual morning round to muster their charge. For some time they did not notice our approach, mistaking our camels for theirs. My cousin seemed so overcome by our sudden appearance that he completely lost his voice for the time being, and, giving Mr. Jones and myself a hearty grip, he moved on to Bejah, to whom he first spoke. He afterwards told me, when conducting us to his camp, that he had never before experienced the same feeling, and attributed it to the sudden meeting, and his anxiety for our welfare for the past fortnight, as he had expected us back within three weeks.

We reached the camp, which is on the creek, at (8) miles from last night's camp. We were fortunate in striking the identical creek upon which they had formed their Spelling Camp. I had taken

a chance shot for it, not knowing how far my cousin would return from the Dépôt, everything depending on the quality of the camel feed. There is a nice water-hole* here, but it is not very deep at present. It should last five (5) or six (6) months when filled. My cousin, after parting from us, had returned from the Dépôt along our out-going pad of July 28th for ten (10) miles Westerly, and finding an excellent camp for the camels, with really good feed either up or down the channel, he had determined to make his camp here. I was pleased to know that everything had gone on so well, though I felt sure it would, with my cousin and those in his care. We related some of our experiences, and all were delighted at our good fortune in discovering a permanent water in the heart of the desert, and midway between here and Joanna Spring; although the description given of the country was not very gratifying news.

Mr. Keartland had busied himself with birds, reptiles, etc., and botanical specimens, whilst Trainor kept watch at camp when the others were absent.

The latitude of this place is, by sextant and theodolite observations, mean 25deg. 56min. 30secs. South.

Thursday, Sept. 10.—Plotting up work done on flying trip. I find we were absent for thirty (30) days, during which time the seven (7) camels, packed, travelled five hundred and two (502) miles, in addition to deviations and work done on foot. They travelled twenty-nine (29) out of the thirty (30) days we were absent, averaging $17\frac{1}{2}$ miles per day. Previous to my start on this trip, these animals had travelled, heavily packed, from Mullewa *via* Cue to the Dépôt, and had had but one week's spell at the latter place before tackling the desert; and when one considers the nature of the Great Sandy Desert, the scarcity of food and the length of time they were without water, their endurance must astonish one. On this occasion the longest stage without water was 212 miles, all travelling over desert sandridges, and heavily packed with full kegs of water, provisions, etc. One camel carried, throughout this stage, very nearly seven hundred (700) lbs. without his saddle. Of course they are all low in condition now, but I hope a week's spell on this good feed will improve them sufficiently to enable them to go through to the Fitzroy River. Owing to the distressing nature of the desert country and the scarcity of camel food, which is only found in very small patches, and generally but sufficient for two or three animals at one place, I think it advisable to take fewer camels, reduce the number of men to two (2), and do less work at each period. During my absence from depôt the party has lived almost entirely on game from the several water-holes, thus making a considerable saving in the direction of tinned meat. I have decided to bury a quantity here to lighten our loading—a great consideration when one pictures the sandridges and porcupine to be crossed in the future. The weather has become considerably warmer, and, after perusing Colonel Warburton's book on his travels in a higher latitude, we are warned that we must expect something uncommon.

Our loading from here will consist, at starting, of 3,080lbs. of water carried in twelve (12) 25-gallon kegs and two (2) 5-gallon kegs, fourteen (14) cases carrying provisions, scientific matter, equipment, etc., averaging about 450lbs. a pair. Fourteen camels will undertake this lot; but, of course, when half-way to the well, the water will be reduced by more than two-thirds its present weight, as the camels will have a drink from the kegs at that distance. I have carefully noted all places where either feed or poison-plant was seen along our outward track last month, as this knowledge will greatly assist us on the present occasion.

Friday, Sept. 11.—Preparing water bags, making all kegs perfectly water-tight, and packing cases in readiness for a start to Midway Well. Buried 170lbs. of tinned meat three (3) feet deep, and made a fire on the ground above it to prevent detection by natives, who will be certain to visit this spot after we vacate it.

Saturday, Sept. 12.—Down the channel of the creek are several fair water-holes; these became brackish as we neared the lake (Lake Rudall), which we reached at two (2) miles. It is apparently about two (2) miles wide here, and opens out further on a bearing of North 170deg. East magnetic towards a low range about ten (10) or twelve (12) miles distant, South. Around the lake, on this side, are red sand hills, different in character to those of the desert. They are clothed with mulga, grass, and good stock herbage (waterbush and buckbush). Returned to camp, having walked about four (4) or five (5) miles. Dosed all camels with sulphur.

Sunday, Sept. 13.—In camp.

Monday, Sept. 14.—Packed all camels and made a start at 8 a.m. Travelled along our old pad to depôt camp, distance ten (10) miles, arriving at noon. We found the water-hole had only lost about one (1) foot in depth during the six (6) weeks we had been away from it. It is now about ten (10) chains long by one (1) chain wide, with ten (10) feet of water in several places. It is a splendid water, and will last over Christmas. When the hole is filled it becomes much longer, and in places sixteen (16) feet deep. In my opinion, the water will last for nine (9) months or longer.

We found the natives had been here during our absence, and on the West side of the water-hole some mystic ceremony or other had evidently taken place. A small hole about eighteen (18) inches deep was sunk in the ground, and the bottom was lined with gum leaves. Upon these were placed several curious pieces of conglomerated, nodular ironstone, with blood upon them; then on top more gum leaves and pieces of stone. A small pad leads for a few yards to the trunk of a gum tree overhanging the creek; on this there was also blood. Another pad leads in the opposite direction from the hole to a distance of one (1) chain, where a stone was firmly placed in the ground, with smaller ones on either side of it. Perhaps this means a little witchcraft, foreboding us ill-luck for having encroached on the preserves of the natives and eaten their game.

Filled all water kegs and bags, in all about three hundred and twenty (320) gallons. During the evening we experienced duststorms and violent gusts of wind, followed by dry thunderstorms and much lightning.

*Camel Camp, W.H.

Tuesday, Sept. 15.—A nice cool morning after last night's storm. Packed camels after giving them a drink, and left that camping-spot for the desert at 7:40 a.m. We travelled Easterly along my old pad for four (4) miles, and then on a bearing of North 75deg. East to avoid going through the Timperley Range, the North-Eastern end of which we passed at sixteen (16) miles, the route being good. We then entered good mulga and grass country, and belts of large bloodwoods where watercourses empty themselves. At twenty-two (22) miles we reached a belt of bloodwoods with a patch of good prickly acacia and salt-bush—a spot I had passed through on my former trip on August 11th, when I made an unsuccessful search for water. We again saw the crested bronzewing pigeon here, and I am now of the opinion that they come to feed on the seeds of the Acacia.

Camped at this spot at 4 p.m.

Wednesday, Sept. 16.—Continuing on same course at 7 a.m. we struck, at seven (7) miles, the large brook or watercourse mentioned by Sir John Forrest during his travels. Here it was trending from the South-South-West and slightly bending to the North-East. Following the channel for two (2) miles we found another nice water-hole. It had water sufficient to last about a fortnight, and there were thousands of the chestnut-eared finch, or diamond sparrows, making themselves very busy at the water. At four (4) miles we struck my pad of Aug. 12th, then passing the hole, which is now dry, South of Mt. Bates, we continued on to Sir John Forrest's camp and marked tree, which we reached after travelling about nine (9) miles along the channel. There is still a little water, but it is thick and dirty. Some of the camels, however, seemed to drink freely of it.

There is a low, granulite range along the South-East side of this watercourse and a few miles off with outcrops of similar formation close to it in places. Another watercourse, coming in from the South junctions close by this spot. There is good feed along the creek—saltbush, mulga, and kangaroo grass.

Travelled for day, sixteen (16) miles.

Thursday, Sept. 17.—Tried all camels at the water; some of them drank a little. Got a start at 7:40 a.m., following the old pad for fifteen (15) miles. Camped on the edge of the salt lake at 1 p.m. After leaving the Mt. Bates water we were overtaken by three (3) natives, two (2) of whom I had previously become acquainted with last month. They followed us for six miles, and then left after we had given them some handkerchiefs. Mr. Jones bartered with them for a belt and head-dress.

Friday, Sept. 18.—Experienced a cold night. Started at 6:50 a.m. and followed my pad for thirteen (13) miles, camping at 1 p.m. on some good native poplar and wattle-bush. The camels require to become accustomed to eating the former, which is very hot, resembling mustard, but when green with seed-pods, as at present, it is a capital substitute for water. I purpose dividing the next two days' stages between here and a good wattle-bush flat, which I hope will suit the camels. My late experience of the country between here and Midway Well, coupled with my knowledge of all the spots where camel feed is to be found, will give me an immense advantage this trip. Our loading is very heavy for this wretched sandridge country, and to-morrow evening I purpose giving the camels seventy (70) or eighty (80) gallons of the water, lessening the loads of those that need it most.

Late in the evening the camels began to string off towards Mount Bates, so all were brought back and tied up for the night.

A little dry bunch grass is noticeable here, in the flats, where fires have taken place.

Saturday, Sept. 19.—Started at 5:50 a.m. A nice breeze which sprang up at 8 a.m. enabled us to get along very well until noon, when it became hot, and, owing to the nature of the sandridges, we had difficulty in getting the camels along. It was decidedly hot at 1 p.m. and I determined to camp at fifteen (15) miles.

The necessity of crossing so many of these terrible sandridges, has considerably altered the condition of some of the camels, in spite of their long spell at Depôt.

Gave all camels three (3) gallons of water apiece; this will reduce our loading by six hundred (600) lbs.

Sunday, Sept. 20.—At 5:30 a.m. formed in line and our serpentine pad was winding over the sandridges. At eleven (11) miles bore off to the North slightly, to avoid some mulga-clad ridges. Entering the valley noted 15th August, I found travelling better, and at 11 a.m. camped at fifteen (15) miles, as it had become very hot. Good wattle-bush and native poplar feed here. Saw smokes, apparently of natives, due East and not far distant. Crested bronzewing pigeons were seen at four (4) miles this morning, flying Eastward.

Monday, Sept. 21.—Started at 5:30 a.m. and following my old pad, travelled sixteen (16) miles to some fair wattle-bush, poplar and short buckbush, which was reached at 11:30 a.m. It became very hot at this time, but our journey was accomplished during the cool part of the day. At seven (7) miles pigeons were again seen, and also fresh tracks of several natives. To search for water here, in such country, would be like "hunting for a needle in a hay-stack." Birds, such as pigeons, cockatoos, crows, and even finches, travel eight (8), ten (10) and even more miles from it at this time of year. And there are no watercourses or conspicuous hills to suggest the likelihood of finding the precious fluid either. The outlook is anything but cheering; in every direction these awful sandridges to encounter, with but small hope of finding water in quantities sufficient to be of value to us. Every day lost now seems for our patient life-preservers another day's waiting for water, whilst the supply in our kegs is steadily diminishing. In such country as this the only safe course to pursue is to go ahead until water is found, without loss of time or encroachment on one's scant supply. Anywhere in this wilderness water may easily be passed unseen, within a few chains; and even when discovered it is generally a waste of precious time to work the majority of the wells found in this country, as they are more often than not valueless, and like the evil "will-o'-the-wisp," luring on to destruction those who look to them for salvation.

Tuesday, Sept 22.—Resuming our monotonous journey at 5.15 a.m., the first half by moonlight, with a cool Southerly breeze for a change, we cut off a slight angle in my former route, again striking the pad at seven (7) miles, and following it up until we reached the large bloodwood flat seen on the 19th August. The herbage being still fairly green we camped for the day, having travelled nineteen (19) miles. My cousin and self walked the first eleven (11) miles. It is my intention to rest the camels here to-morrow; the green herbage will, I hope, benefit them.

Two pigeons were bagged by the Afghans at this camp.

During the afternoon Mr. Keartland accompanied me to the Eastward for some distance through large bloodwoods, mulga, poplars, porcupine, everlasting flowers, and patches of green grass.

Wednesday, Sept. 23.—Resting camels to-day. Plotted up traverse.

I find that the more foot exercise one takes the more water one consumes, and boot leather is also a consideration.

My cousin and Mr. Jones spent some hours extracting water from the roots of the bloodwoods, which are very luxuriant here, in order to find out whether sufficient could be obtained to save a man's life, if he were lost and without a drink. Although armed with spade and axe, neither of which a lost man would be likely to have, they found it hard work, the roots being about two (2) feet underground and difficult to find. They were not very successful, only procuring altogether about half a wine-glassful of fluid, whilst they drank a much greater quantity from the kegs to enable them to continue work. On the return of Mr. Keartland and myself from a ramble after birds, my cousin said he thought that in reading "The Aborigines Water Quest" they had probably missed some important injunction, and that perhaps the tap root should be manipulated. For my own part I am of opinion that beyond the coastal districts in Southern latitudes, where a perishing man might be successful with mallee roots, there would be little chance elsewhere, and the exertion of delving would cause the radiation of more moisture from a man's body than he could pass through his gullet from the root of a tree. Theory is good sometimes, but practical knowledge is better.

Thursday, Sept. 24.—Started at 5.45 a.m. Followed my camel-pad for one (1) mile, where it angles to the Northward, then altered course to North 42deg. East, as I hoped to get better travelling in this direction and so avoid some of those terrible sandridges and lumpy porcupine flats crossed on our previous trip. Crossed low, gravelly, mulga-clad rises of clay-rock formation, undulations with some low sandridges intervening, a few belts of mulga, and large, open porcupine flats with scattered grevillia and a few poplars. At thirteen (13) miles we suddenly came upon a native well at the North foot of a sandridge. There was nothing striking in appearance here to indicate the presence of water, and we almost missed seeing the well, although it was but a chain to the North-West. It is about twelve (12) feet deep, wide at surface, and about eighteen (18) inches at the bottom. Climbing down I pushed a broken spear through drift sand and found, at three (3) feet, a hard rock bottom, with about eighteen inches of wet drift sand. As the water would rise and moisten the sand for about a foot, I considered it would, in all probability, be but a poor supply, and if we lost a day in sinking a workable well—a course necessary in order to cope with the drift—we might, after all, meet with a disappointment. There was no feed for the camels at this spot, and I feel quite confident that Midway Well, found on August 25, will prove up to expectations; so I consider it would be unwise to risk the loss of a day under the existing conditions.

Continued on until, at eighteen (18) miles, we cleared the sandridges, which gave place to mulga-clad ridges and open porcupine. At twenty-two (22) miles, with still nothing in the shape of feed for the camels, encountered a higher gravelly ridge, seemingly the same as that crossed by me further to the West last month. As we had travelled for nine (9) hours, and the camels had been twenty (20) hours without a bite, I determined to camp on the South-West side of this ridge. We found a nice patch of fairly green herbage amongst some grevillia and bloodwoods, where an insignificant watercourse empties itself from the ridge, and camped here, having plodded along for twenty-three (23) miles to-day. One often sees small patches sufficient only for two (2) or three (3) camels, but it is very difficult to find enough for twenty (20) hungry ones.

Friday, Sept. 25.—The camels fed well last evening, though tied up to insure an early start as usual. At 5.45 a.m. we altered our course, bearing now due North, and crossed a few sandridges with wattlebush and patches of buckbush. At three (3) miles passed the highest of these mulga-clad ridges trending East and West, with some escarpments on its Southern side. Then again came sandridges, until, at twelve (12) miles, we chanced upon a patch of wattle bush and green buckbush (roly-poly). Here the sand underneath the surface was quite damp, evidencing a thunder storm at no distant date. Knowing the nature of the country ahead I would not pass this patch of feed, so camped at 10.45 a.m.

Saturday, Sept. 26.—Continued same course as yesterday, starting at 5.20 a.m. At two (2) miles we crossed a clay-rock ridge with escarpments on South side, rubble top, and open porcupine. Cutting the old pad at seven (7) miles we followed it for the rest of the day, camping in the valley noted by me on 22nd August, having travelled from twenty-four (24) to twenty-five (25) miles. The herbage is partly dry, but still there is fair feed for the camels.

Mr. Keartland was successful in shooting an Alexandra parrot. The days are getting very warm now, but fair Easterly winds have favoured us for the past week.

We gave the camels eighty-four (84) gallons of water, this evening, and I now hope to reach Midway Well on the 28th inst.

Sunday, Sept. 27.—Started out of the valley at 4.15 a.m. Travelling now direct for the well, and shall soon get into sand-hills again. Crossed a ridge of clay-rock extending North-West and South-

East, at eight (8) miles, and then, for the rest of the day, numerous sandridges. Country all very open and quite destitute of camel feed.

At 2 p.m. we were compelled, at twenty-three (23) miles, to halt where there was not a sign of herbage, as the heat was great and the camels were tired out, having fasted eighteen (18) hours since they were tied up last night.

Latitude at camp, 23deg. 32min. 45sec. South.

Monday, Sept. 28.—At 5:45 a.m. Mr. C. F. Wells in charge of caravan and party started for Midway Well, whilst Mr. Jones accompanied me with our riding-camels and two (2) water-bags, bearing North 283deg. East to examine a well and a lagoon both seen by us on our former traverse on August 27th. Travelling same class of wretched country for eighteen (18) miles we struck our old pad leading South-Westerly. Following same for one and a half ($1\frac{1}{2}$) miles we reached the well at noon, but tasting it, I found it very bitter and saline, and quite unfit for the camels.

Noting the small samphire flat on the edge of which the well is situated, and seeing that water had been running from its surface into the shaft, I conjectured that probably this accounted for its present state. Taking a spade I had with me I began to throw out the wet silt, sinking the hole seven (7) feet from the surface, five (5) feet long, and three and a half ($3\frac{1}{2}$) feet wide. Suddenly my spade struck soft sandstone rock, and feeling to see whether it was the same all over, I found a hole at one end, into which I pushed the spade 2ft. 6in. deep, down to its bottom. I again pushed the spade through the silt, upon which I had been standing and loosened it a little. Immediately a hissing sound took place, accompanied by a jet of water from the bottom. Catching some in a quart-pot we found it fresh. Setting to work again, I cleaned out the small hole, finding it thirty (30) inches deep, eighteen (18) inches long and nine (9) inches wide, and smooth like a granite rock-hole. The water, clear as crystal though holding a very little finest red drift sand, was coming in through a crevice at the bottom; if left alone it filled the rock-hole in a quarter of an hour, and it rose eighteen inches in the large hole which before contained the bad water. This is, apparently, a splendid spring, but the water, rising over the level of the sandstone rock, mixes with the soil and becomes saline and soaks away. We consider this a great find, for it gives us a feeling of safety should Midway Well not prove up to expectations after my cousin's arrival there with his eighteen (18) camels to water.

Scooping a hole in the sand, and placing an oil-sheet therein, we watered the camels with a half ($\frac{1}{2}$) gallon billy-can, and then had a wash ourselves, the first our faces had been treated to since the 17th inst.

The small samphire flat, on the Northern edge of which the well is situated, is partly bare, circular about two hundred (200) yards across, and surrounded by some tea-tree, quondong, and acacias. High sandridges are close by, on the East, and gypsum is near the well. On the West is a low sand-bar or ridge, and just beyond this a flat or lead of samphire and a dark species of acacia, trending on a bearing of North 285deg. East, magnetic, towards the lagoon before mentioned, which we came to inspect. Following on this bearing for three and a half ($3\frac{1}{2}$) miles and then bearing North 300 deg. East mag. for two (2) miles, we reached the lagoon and found it dry and saline. We camped between the entrance of this lead to the lagoon and another crossed on August 28th, which comes in from the South-East. The lagoon has sandridges on the North shore which extend along the lead up to the well and constitute the best method of finding this water. There were, near the well, no trees large enough to mark. Another lead comes into the lagoon from the South, and all the country to the East and South, for some miles, is samphire marsh and gypsum mounds with acacia (dark wattle.)

Travelled for day 25 miles.

Latitude at camp 23deg. 26min. 57sec. South.

Tuesday, Sept. 29.—Getting off camp at 5:40 a.m. we returned to the well, which I have named "Surprise Well." We found four and a half ($4\frac{1}{2}$) feet of water in it. Having mixed with the saline earth in its banks the water registered, this morning, one quarter of an ounce ($\frac{1}{4}$ oz.) of salt per gallon, but if taken direct from the spring in the soft, sandstone rock it is quite fresh. Yesterday, whilst having the well baled out and the rock exposed, I noticed two (2) hollows on its surface the size of a man's foot, and it appeared to me as though they had been worn there through the natives standing to get the water from the small rock-hole. No doubt this water, as also Midway Well, has been used by natives for very many years. When at the latter place we noticed hundreds of very old camping spots on all the sandridges in the vicinity, and the accumulation of *débris* which had been removed from the well from time to time had formed a large mound. Owing to the scarcity of game and other food around these waters of the desert they are never frequented by the natives for a lengthy period—not more than a week or two at most, and then by but small numbers, unless for some special ceremony when a large number collect, but only for a short time as they could not find food for many days. After giving the camels another drink, we travelled direct for Midway Well, making twenty-three (23) miles for the day. We found my cousin had arrived safely, yesterday, and formed camp near the well. All the camels had been watered and the supply of water, which registers only about half ($\frac{1}{2}$) an ounce of salt per gallon, is good.

A number of crested bronzewing pigeons and shell parrots, and a few galahs and corella parrots, are now coming to water at this well. It is astonishing how soon all the desert birds discover when a well is in use.

Wednesday, Sept. 30.—Spent the day washing and repairing clothing, etc.

Marked a tree four (4) chains South from well, L.A.W.
4

A high sand-hill is East-North-East from the well and distant a quarter ($\frac{1}{4}$) of a mile, and between the two is a tall clump of green tea-tree.

Just now the mornings are very cold, the temperature almost at freezing-point at times, whilst the days are exceptionally hot if the wind (generally North-East here) drops. To-day, at 3 p.m., the thermometer registered 95deg. in the shade.

The pack camels will spell here on the water and the fair acacia (wattle-bush) and dry herbage around the well until I return.

Thursday, Oct. 1.—Preparing for trip to Northward during the morning.

Leaving Mr. C. F. Wells in charge I left camp at 2 p.m. with Bejah and two (2) camels, fourteen (14) gallons of water in bags and 5-gallon kegs and eight (8) days' rations. So equipped I was prepared to travel eighty (80) miles North, should failure to find water, or other causes, render it necessary.

Bearing North 351deg. East, passed through fair wattle-bush in valley for first two or three miles, then over most wretched country: nothing but sandridges, porcupine, a few desert gums and dwarf tea-tree. Camped, at eight (8) miles, on a small patch of water-bush on the top of a high sandridge. From camp is visible a peculiar, low, round sandstone out-crop (Winnecke Rock) distant four (4) or five (5) miles.

From the time of leaving the well, when the heat was 98deg. in the shade, crossing the sandridges was very hot and trying work.

Friday, Oct. 2.—Started at 4:45 a.m., after letting the camels go to enable them to get a little food during the early morning. Now bearing North 356 deg. East. We travelled on this course for twenty-two (22) miles, camping at 12:30 p.m. when it became too hot to face the sandridges. The aspect is most depressing. Wretched red sandridges stretch in all directions, and porcupine, interspersed with a few desert gums and dwarf tea-tree shrubs, is everywhere. So far we have seen no camel feed since leaving camp this morning. At eighteen (18) miles we passed a low, sandstone outcrop about half a mile on our right. In the flats, for the whole day, we saw sandstone rubble and a few low bars of sandstone running at right angles to, and under, the sandridges.

The outlook here is most discouraging, and I am afraid that this class of country extends for some distance. From here some very high sandridges are visible to the Westward, about five (5) miles distant. Saw at camp two (2) pigeons and two (2) galahs, flying Westward.

Latitude at camp, 22deg. 57min. 6sec. South.

We find the necessity for being on an allowance of this brackish water, in such weather, very trying. We can barely manage to put up with it.

Saturday, Oct. 3.—Breakfast at 3:15 a.m., afterwards bearing North 290 deg. East for some high sandridges seen yesterday. Ascended two very high ridges at five (5) miles and six (6) miles respectively, but only to meet with the same horrible outlook and no indication of water. Saw low, mulga-clothed ridges to the West and North-West, two (2) or three (3) miles distant, and countless glaring red sandridges in all directions. Altered course, now bearing North 55deg. E. over sandridges and porcupine, with clumps of tall tea-tree in the flats or troughs between the sandridges. From four (4) to five (5) miles on this course we saw some good wattle-bush (acacia)—the first feed seen since leaving our companions. Then altering course to North 355deg. East we travelled on for four (4) miles, again in country destitute of feed. Low mulga-clad sandstone ridges were visible to the Eastward, about six (6) miles distant, and another crowned with drift sand, two (2) miles to North-East. More glaring red sandridges to the North. From this point I noted a gully to the West with tall tea-tree and other green foliage which I took to be wattle-bush. This, together with the discovery of some very old native tracks, just visible in the sandy flats and going in the direction of the foliage, determined me to proceed to the latter and camp. Bearing North 250deg. East we camped, at one and a half (1½) miles on the South edge of the gully. We had but little breeze during the morning, and it is now oppressively hot. Starting, I proceeded South and after going a couple of hundred yards picked up the tracks, which were going South-Westerly. Following them, with difficulty, for half (½) a mile, we came to a small clump of desert gums (*eucalyptus*), and noticed that almost every tree had had, at some time or other, a piece of bark removed from the trunk—no doubt to make a dish or "coolamin" for the purposes of carrying water and food.

To the Westward was a low flat with tea-tree, and a very small, bare flat was also visible to Bejah who kept this information to himself. I went for the tea-tree, regardless of tracks, whilst Bejah evidently made straight for the flat, which he reached before I did, but seeing some finches on its North side he made for that spot, whilst I discovered the water on the South side, which is one (1) mile W.S.W. of our camping-place. This water is perfectly fresh and soft. It is in a small well (Separation Well), in soft sandstone rock a few feet from the surface. No other stone is visible in the vicinity. There is a nice patch of half-green herbage (roly-poly or buckbush) immediately around the well for a few chains, also a quantity of wattle-bush. The growth of the former is no doubt owing to the numbers of old native encampments, which can be traced by the charcoal that is lying about in all directions. The discovery of water and feed together seemed to give us fresh energy, and we at once returned to camp and brought our packs and camels over. Watering our thirsty animals we soon had the hole forked, as it was but a small one, only large enough to allow us to get a billy-can to the bottom of it. The rock was four (4) feet from the surface, and the natives have apparently sunk three (3) or four (4) feet through this. I could see the water coming in from or under the rock, after removing about three (3) feet of *débris*, consisting of small bones, bark, sticks, and decayed vegetation, which is to be found in all these native wells, when not in use. I have noted that immediately around this well, and also at Midway Well, the growth of tea-tree is stunted, whilst further off it is tall and greener, which might lead one to suppose that the water would be found where the growth is most prolific. But this may be accounted for by the fact that the sand or soil is much shallower at the wells than where the larger timber exists.

Although the water is green at present we each drank a considerable quantity of it, as we were very thirsty after being on allowance of the brackish water.

A large number of crested and bronzewing pigeons and a fair number of galahs, and flocks of shell parrots are coming here to water; this induces me to believe in its permanency. We bagged sixteen (16) pigeons.

Travelled for day, with camels, eighteen (18) miles.

I make the latitude of this spot, 22deg. 51min. 14sec. South, and East longitude about 123deg. 52min. It is now my intention to return to depôt at Midway Well and bring the caravan and the rest of the party through to this water. We will then continue our course for Joanna Spring, and I can see that there must be no delay, owing to the lateness of the season. In so terrible a country as this, where glaring red sandridges, all trending almost at right angles to our course, present themselves to the view in every quarter, and where camel feed and water are scarce and the heat of the sand is intense, it is extremely difficult to proceed at this time of the year. The position of Joanna Spring is now about one hundred and ninety (190) miles from here, and with care and an ordinary run of luck I expect to get all camels and impedimenta through with safety.

Sunday, Oct. 4.—Let camels go to feed until 7 a.m. this morning, and starting at 8 a.m., bearing North 170deg. East, we crossed our zigzag route of yesterday morning at seven (7) miles. Then bearing South-Easterly we cut our outward pads again, and camped at eighteen (18) miles without feed which, however, we did not expect to find.

To-day was very trying and cloudy, and this evening a closeness prevails. Innumerable small insects and ants are swarming around us and giving us a lively time.

Monday, Oct. 5.—Selecting the best route for the caravan to take when it came up we proceeded direct for depôt, which we reached at twenty (20) miles. Found all well and the camels much improved for the rest they have had.

The well has been freely used, and the supply of water appears, as at first, undiminished.

The variation of the needle, here, 41min. 20sec. East.

During my absence the seed of the date palm has been planted at, and around, the well, and where the tall tea-tree grows to the East-North-East. I believe these spots are favourable for planting.

Tuesday, Oct. 6.—I purpose giving the two (2) camels used by Bejah and self a rest here, to-day. Occupied in plotting and preparing for a start to-morrow. Had all kegs freshly filled with water. A large number of pigeons have been shot during the party's stay here, and we shall not now require all the tinned meat we have in stock.

Wednesday, Oct. 7.—Started at 6:40 a.m. Taking all kegs and bags full of water we travelled eighteen miles, and camped at 2:30 p.m. The weather was excessively hot and trying, especially whilst crossing the sandridges after 11 a.m.

During the evening walked about a mile East of camp to an outcrop or bar of sandstone, with ironstone cap, extending North and South, the sandridges crossing it.

Found native soakage well (dry), also bank and small drain for conserving the water. Discovered a little herbage beyond this spot, walking in all three miles.

Thursday, Oct. 8.—This morning we left at 4:20 a.m., following chiefly along my pad till my camping-place of the 2nd inst. was reached, then bearing North 327deg. East we reached the well at 1:30 p.m., at twenty (20) miles. The sandridges were steep and numerous, and owing to this and the heat of the afternoon the camels kept breaking their nose-lines during the latter part of the stage. The sand becomes so hot after 11 a.m. that the poor brutes can barely endure walking over it.

During the afternoon we cleaned out the well, removing all the accumulated rubbish, chipping off some of the soft sandstone rock at bottom and enlarging the hole, the well being then about ten (10) feet deep. We found we had a well of most delicious fresh water of excellent supply coming in from the sandstone near the bottom; the good quality renders it a great boon to us. The water in the last well (Midway Well) is good for domestic use, but contains half an ounce of salt to the gallon, and is not, therefore, desirable for travelling on when one is on a daily allowance.

There are sandstone elevations from four (4) to six (6) miles East and West from this spot, which probably dip towards it, forming a basin.

If not, as I think, of a permanent character, this well has a large supply for a considerable length of time after rainfall.

Friday, Oct. 9.—We have now managed to water all the camels, and fill all kegs with fresh supply (300 gallons), and the well still justifies our good opinion of it. It rose to its original height during the night, and this morning it showed five (5) feet of water and a holding capacity of two hundred (200) gallons. The feed is good here, and, as I anticipate some difficulty in this respect when we continue our travels, I purpose giving the camels to-day and to-morrow on it.

Marked the only tea-tree growing in this little patch—which is about (2) chains North of the well—L.A.W.

5

Again observed for latitude (mean) 22deg. 51min. 14sec.

Saturday, Oct. 10.—To-day the weather is working up for a thunderstorm. Early this morning I walked Northward for two (2) miles, to find the easiest route for the camels when leaving here.

We have been feasting on pigeons at this little oasis. Birds have been flocking here in great numbers for water, and shooting is as simple as robbing a hen-roost.

These welcome little spots around the only three (3) wells of value hitherto discovered are, in this wretched country, truly oases, and the only places of rest for man and beast. Herbage and bushes suited for camels surround each of the waters for short distances, thus enabling the traveller to refresh his weary "ships of the desert" with water and food; and it is on such occasions as these that one realises the value of water. In Australia its absence is frequently the only danger of importance that the explorer has to encounter.

The seed of the date-palm has been freely planted around the well, to-day, and everything made ready for a start, to-morrow.

My cousin and Mr. Jones will leave us, here, for a trip to the North-West, and we hope to meet eventually, somewhere in the vicinity of Joanna Spring. They purpose proceeding along the flats or troughs between the sandridges, generally bearing North 290deg. East to North 300deg. East for eighty (80) miles, or even one hundred (100) should my cousin consider it advisable to go so far, and then in a North-Easterly direction to cut the route I purpose taking, a point thirty (30) or forty (40) miles South of Joanna Spring. I anticipate reaching this point in about twelve days, whilst my cousin, taking into consideration that the first eighty (80) or one hundred (100) miles can be done by him without crossing the sandridges, estimates that he will arrive at that point in about fourteen (14) days. In the event of not cutting our tracks, where he expects, he will continue on for Joanna Spring. Failing to find this, they will continue on, without loss of time, for the Fitzroy, in a North-North-Easterly direction. But in the event of finding Joanna Spring or any waters in that vicinity they will wait and signal for us, but only so long as their supplies of food will permit. They will take three (3) camels, sixty (60) gallons of water in two (2) pairs of kegs and their filled water-bags; also provisions for a month and light equipment with necessary plans, etc. We are leaving a pair of ration cases here, and have buried 50lbs. of tinned meat near the marked tree at camp.

Sunday, Oct. 11.—We experienced thunderstorms all round us last night, but only a few drops of rain fell here. I am hoping that some of the showers fell to the Northward.

Each party started from well at 7.15 a.m., Charles on a bearing of North 290deg. East, whilst our course was North 356deg. E.

For the first eight (8) miles the sandridges were numerous, with loose sandy flats, dense porcupine desert gums, fair wattlebush and patches of waterbush occurring, and travertine limestone outcropping in places. Noted sandstone outcropping three (3) or four (4) miles distant to East and crossed some in the flats. Then followed wider flats until, at fourteen (14) miles, we reached a higher elevation of sand overlying sandstone, the higher points of the latter being one (1) mile to Eastward. (Read bearing North 313deg. East to a remarkable hillock of sandstone (Thring Rock) about four (4) miles distant.) We camped at this point in a mulga belt. To the North is a rather wide porcupine flat which will be of service to-morrow. Very poor feed here.

Monday, Oct. 12.—Started at 4.45 a.m. Following same course we crossed the flat at three and a half ($3\frac{1}{2}$) miles, then more sandridges and porcupine. At seven (7) miles sighted a small but conspicuous hill to Eastward, one (1) mile distant, and South of that again another rise. I have named the hill after Mr. Stephen King, of the South Australian Survey Department, who was a member of John McDouall Stuart's Expedition across the Continent. Noticed outcrops of sandstone half a mile to West. Proceeding to them I found some very small rock-holes which were dry. From this elevation I saw a dry salt lake about three (3) miles to the North-West, situated in a valley which apparently extended some distance to the Eastward, the valley appeared to be dark and low with vegetation. Continuing on over numerous and rather steep sandridges we passed a patch of slate outcropping with a little loose quartz and prickly acacia bushes, which are rare in this country. The slate and quartz were also a surprise to me. At ten (10) miles we reached the edge of the valley, and here saw good wattle-bush (acacia) tea-tree, mallee, quondong and porcupine. Many ridges and blows of travertine limestone were visible here. In the same valley, at twelve (12) miles, we crossed a shallow watercourse trending towards the lagoon of also gypseous soil and outcrops. Enormous clumps of porcupine occurred here and onward.

At fifteen (15) miles we reached the North side of the valley which is about 1,150 feet above sea level, the sandstone outcrops, from which the lake was seen, having an elevation of two hundred and fifty (250) feet. In the flats, on either side of this valley, are large ant-hills up to eight (8) feet high. Being afraid to pass this feed I determined to camp here at 11.15 a.m.

I am of opinion that water would be found in this valley at moderate depths. Saw some crows here and, just before entering the valley, tracks of natives were seen. High drift sandridges are visible to the North of camp, and from the summit of one of these, a mile from camp, the lake was plainly visible, bearing North 245deg. East, and about two (2) miles distant. I have named it after Mr. W. P. Auld, of Adelaide, who was a member of Stuart's famous Expedition. At two (2) miles from camp, whither I had walked in search of water, I could see high red sandridges in all directions for a considerable distance, and about two (2) miles west, some sandstone outcrops. Travertine limestone exists, also, on this side of the valley.

Latitude by observation, 20deg. 24min. 48sec. South, at camp.

The same disheartening outlook everywhere! Although there is no doubt that something fairer to look upon existed here before this terrible sand hid it from view.

Tuesday, Oct. 13.—We turned out at 2.30 a.m., and were crossing the first sandridge, in the dark at 4.15 a.m. The whole of to-day's journey was over high, abrupt sandridges. At three (3) miles we passed some small hillocks of sandstone, and another outcrop visible at (8) miles, about a mile to East-

ward. At fourteen (14) miles, at the summit of a very high sandridge, we chanced upon a few patches of herbage (half-green waterbush), and, fearing to go beyond this, I camped at 11 a.m.

During the afternoon I found the track of an emu, going in an E.N.E. direction, and, as it was recent, I followed it. It kept a direct line, and I tracked it for seven (7) miles, crossing a good number of sandridges, until I began to feel the heat; it being just beyond noon when I left camp. Seeing no indication of water, and noting that the track was still making the same course, I gave up the search, and returned to camp, feeling excessively dry and thoroughly disgusted, as I had cherished great hope of finding water. I am told, however, that these birds will travel great distances without a drink, and this one may have been on a record-breaking expedition. It was 5 p.m. when I got back, and I felt thoroughly exhausted after that fourteen (14) miles' walk in such climate and country. Bejah had also found the track of this bird, and had run it in the opposite direction, for some distance, without success. He says—"I think this fellow all the same camel; no see water, no want."

A sandstone outcrop is visible from camp, three (3) miles Easterly.

Wednesday, Oct. 14.—Rose and started at the same hour as yesterday, on same course. At two (2) miles we encountered sandridges overlying sandstone and rubble ironstone. After that the flats were wider and the sandridges lower, though high to the Eastward with outcrops of sandstone visible. At (9) miles a bare ridge of sandstone was visible about two (2) miles to Eastward, and from it some small, shallow watercourses proceeded, emptying into tea-tree flats, which we crossed. At ten (10) miles we met with travertine limestone, wattle-bush and cork trees. As the opportunity was thus offered me of camping on this feed and making a search for water, the locality appearing favourable, I decided to take it. At noon saw smokes visible to the North-West, the first we have seen for the last hundred and fifty (150) miles, although old footprints and burnt country have been seen frequently. As we are now within 140 miles of Joanna Spring, I am hoping that these natives belong to that country, and that we may make friends with them. It became excessively hot at noon to-day, and the camels sought shelter immediately on our arrival here, at 9 15 a.m., preferring to go hungry until the evening, although they were, as usual, tied up last night. I find that our only hope of getting our loading through this wretched wilderness is by very early starts and by camping before noon.

Latitude by "Pavonis," 22deg. 4min. 27sec. South.

Bejah and self walked ten (10) miles this afternoon, in various directions, in search of water. We saw some very old footprints of natives, and places where bark dishes had been cut from trees. Found one (1) dry well in some tea-tree South-East of camp, and although we were unsuccessful, I feel confident water exists, at present, not far distant. We saw several finches whilst out, and this evening a galah parrot flew over the camp to the Westward, returning again from whence it came within a quarter of an hour. It was getting late and we were too tired out to go in further search to the West, where I believe the water is, and all our search work must be done, if possible, without interfering with our progress Northwards, so I cannot afford to wait here after daylight to-morrow.

Thursday, Oct. 15.—Leaving camp in the dark at 4:10 a.m., we still pursued the same course over rather abrupt sandridges at first, then over wider flats and less elevated ridges. Noted numerous outcrops of sandstone, and ironstone rubble and nodular limestone in the lower gullies, and, at fifteen (15) miles, sandstone and hillocks immediately on our West, with a conspicuous belt of tea-tree down a valley to the Eastward. We saw some pigeons as we passed here, and after getting a mile further on galahs were seen flying in the direction of the tea-tree belt, which I regret I did not visit, overtaking the caravan later. Smokes were visible to the West and East-South-East.

At fifteen (15) miles we camped at 10:20 a.m., it being then too hot to take the camels further. The feed here is very poor. A small sandstone ridge lies one (1) mile to the Eastward, with a mulga thicket at foot. We camped at a few desert gum trees, after clearing the porcupine, as we so frequently have to do. One cannot move without coming into contact with this aggravating grass, predominating and flourishing alike on flat or ridge of stone or sand. One may wonder why such an enormous area should be covered with so useless a growth, but on reflection it can be seen that this vast and dreary wilderness would be a most barren desert but for the porcupine; for it impedes the drifts of sands, and affords the only shelter for the game or vermin which are the source of supply for the heathens who inhabit this inhospitable region, and without which they could not possibly subsist.

At nightfall the solitude of the surroundings is broken by the chirping of myriads of crickets, which find shelter from an over-powering sun under these wiry bunches.

We divided eighty (80) gallons of water amongst the camels, this evening: they look very miserable and could not possibly carry their loads of water much further.

Latitude, 21deg. 51min. 51sec. South, by observation.

Friday Oct. 16.—Last evening we experienced great difficulty with the camels whilst dividing the water. I allowed seven (7) of them one and a half ($1\frac{1}{2}$) buckets apiece, and the remaining ten (10) one bucket each. They fairly rushed the camp for it, becoming almost unmanageable.

We were up at 2 a.m., getting away on the same course at 4 a.m. We are now crossing gravelly undulations with green bloodwoods in the gullies or shallow watercourses, which immediately empty themselves into sandy, porcupine flats. Every few miles high sandridges divide or rather cover this class of country.

At 8 a.m. the weather became very close and sultry, but a North wind sprang up at 10 a.m. and caused a slight improvement, although at times, and always when crossing the sandridges, it was very trying; the camels refused to travel and gave us no end of trouble. At thirteen (13) miles I noted in front of us a low valley, and decided to push on to it in the hope of finding some feed for the poor brutes. We passed a low, bare, sandstone hill half a mile on our West with sandridges almost to its summit, at

fifteen (15) miles. Reached the edge of the valley at 17 miles, and here found some wattle bush (*acacia*) and a little native poplar, the seeds of which were dry.

We are still over one hundred (100) miles from Joanna Spring, and at present dazzling red sandridges are all we can see to the Northward. At sixteen (16) miles we passed an old encampment of natives, and a native well in a tea-tree flat, ten (10) feet deep in sand and apparently dry. Saw here some pigeons and crows, but am at a loss to know where they get a drink.

Walking about on foot to look for these waters is most exhausting, and only serves to increase one's thirst, and during the heat of the day it would be an utter impossibility to induce camels, even if they were fit for the extra work entailed in search, to face the hot sand.

Some thunderstorms are working up this evening.

Saturday Oct. 17—None of the camels did at all well, last evening, owing to the excessive heat, and the small quantity of water we gave them on the 15th seems to have been of little help to them. The days are now so frightfully hot that, during the early morning, they refuse to pass a shade of any kind, and when the caravan halts they all huddle up together, trying to stand in one another's shade. I feel I must give up day-travelling and endeavour to push on by moonlight.

Our position has now become most serious owing to the intense heat, the sandridges, and need of both food and water.

Arranging to start to-night, I decided to walk back to the well (about a mile) which we passed yesterday and try, with Bejah's help, to deepen it. We worked hard for an hour or more, but found it dry, though with damp sand on very hard rock bottom. Whilst engaged in this I saw a very dark volume of smoke, apparently not far distant, rising to the North-West. We started at noon intending to push on at night, after our return; but soon found ourselves amongst very high and steep sandridges on the tops of which desert gum-trees were growing. At nine (9) miles we found a freshly burnt patch of porcupine and tracks of natives. While running these I had to walk many times up and down a single sandridge—the natives had evidently been tracking wallabies and rats. The natives' tracks were going Easterly, and consequently brought us a little nearer our camp than where we first found them. By this time it was nearly dark, and having run the tracks for about four (4) miles I decided, at 6 p.m., to start for camp. It took us from that time until midnight to reach the camp, a distance of seven (7) miles. Staggering over hot sand, parched with thirst, I became exhausted, and only able to manage a quarter to a half mile at a time, sinking down at the top of each sandridge in a half stupor, and falling into a sleep each time only to jump up again with a start and urge Bejah to rouse himself. The tops of the ridges becoming cooler as the night advanced, we repeatedly pulled our clothes off and poured the cool sand over our burning skins. On approaching the signal fires from camp we were forced to lie down again, and Bejah seemed to collapse. We called for relief and the others were soon around us, tending us both, and doing everything to relieve our suffering. Mr. Keartland is kindness itself, and Trainor seems unable to do enough for us. As we were unable to move for some hours our start was delayed until morning. We walked quite twenty (20) miles since noon on this exploit.

Sunday, Oct. 18.—At 8 a.m. started for the spot where I left off tracking last evening, and having the benefit of a South-Easterly breeze, continued the journey until 11 a.m., reaching the position at seven (7) miles. Travelling on a bearing of North 330deg. East for two (2) miles, we avoided steep sandridges, getting through some samphire marshes. Then, working round on to our former line of traverse, camped under some desert gum trees, which are fairly large here.

Resting until 3 p.m., Bejah and I again set out with two (2) camels, one of us riding whilst the other led the poor animals in order to get them along over the sand. Picking up the natives' track, we followed it with difficulty, owing to the manner in which it twisted and turned about, and crossed and re-crossed other tracks. Tracking him to camp in a porcupine and tea-tree flat between the ridges, we saw several of the natives, who had not perceived us. Putting the camels down I called to them, but they all made off over the first sandridges to the North of their camp, although I tried all my powers of persuasion to prevail on them to stay. There were about a dozen in all, men, women and children.

Searching about we found a well in drift sand, about twelve (12) feet deep. I pushed the cleaning rod of my Winchester over two (2) feet into the wet drift below water level. We were unable to get our camels a drink, having no appliances, so returned to camp with the news of our discovery. Our last hope of getting out of this horrible fix depended on the discovery of water, and I had felt very doubtful whether any of us would be alive a week hence. For the last three (3) days the camels had refused to eat a morsel, and the terrible heat was gradually becoming worse.

Monday, Oct. 19.—We started at daylight and moved over to the well, about one and a half ($1\frac{1}{2}$) miles North-East and about half ($\frac{1}{2}$) a mile East of the line of traverse pursued by me since leaving the well on the 11th inst.

We at once set to work, finding the well difficult to cope with owing to the drift sand and loose sides. Removing several tons of sand from around the top, and digging it out first as far as safety would permit, we lowered into the bottom a box made from two (2) ration cases, and at the same time secured the sides of the well above with spars of desert gum and tea-tree brush. At noon we had it finished, but the drift was still coming in at the bottom, where there was also soft sandstone rock. Spending the rest of the day at baling, we secured about thirty (30) buckets of water, which we gave to the camels at 7 p.m. We were then obliged to tie them down to keep them from the well. I purpose to continue taking the water as long as it comes in, or until we get sufficient for the camels.

To help us with the drift Mr. Keartland made a second box, on which he nailed a bag to form the bottom; this box is now fitted inside the larger one.

With the exception of their spears the natives left all their belongings at camp when they bolted yesterday morning. I noticed amongst their implements a piece of sharpened steel or iron fixed up as an

axe, a large quantity of different varieties of acacia seeds, and a preparation of these made into a paste and ready for cooking. There was also a dish of berries resembling small melons, with hairy rind; these, I notice, grow on small bushes around here. This species was eaten by Colonel Warburton's party during their hardships in 1873.

Latitude at this spot, 21deg. 29min. 40sec. South.

Tuesday, Oct. 20.—We were at the well at daylight, having first sent the camels beyond the first sandridge and out of sight of the well on the chance of finding feed.

We found the supply of water decreasing considerably, and by noon had only obtained eighteen (18) buckets, bringing the total, during the afternoon, to twenty-five (25) buckets; the well then refused to yield more than three (3) gallons an hour.

During the morning Said Ameer, who was looking after the camels, came over and gave a description of the movements of two (2) native spies, who had watched us and had taken a general survey. Said Ameer was within fifty (50) yards of them, and whilst one was craning his neck to see over the sandridge and occasionally turning and making gestures to his companion, he perceived Said and leaving his spears bolted for his life, although Said called to them and held up his hands.

Giving the camels all the water we had collected from this well, which I have named "Sahara," I decided to resume our journey at 8 p.m., travelling by moonlight. I find it will be utterly impossible to get the camels along during the time the sun is in view.

I have marked a tea-tree "L.A.W. /6" about five (5) chains East of the well. There are several large ant-hills, up to ten (10) and twelve (12) feet high, near by, and the well is on the South side of a sandridge with a small tea-tree close by it. Other small, scattered tea-tree and coarse species of acacia are also in the flat. The dry seed-stalks of the porcupine are as much as seven (7) feet high here, showing that a good rainfall occurs in this latitude sometimes; when—to quote Lindsay Gordon—

Broken up fountain heads dash on
Dry deserts with long pent up passion.

Wednesday, Oct. 21.—The small allowance of water to which we were forced to limit the camels last evening was like a drop in the ocean to the half-starved looking, famishing brutes. They rushed the kegs, and gave us an hour's work in dividing the spoil fairly. We have sufficient water in the kegs, for our own use, for ten (10) days, but if we find it impossible to get the camels along without water I must give a little of it to those most exhausted. When they have no feed they cannot go so long without water.

We left the well, which had given us false hopes, in a sweltering heat at 8 p.m. Slightly altering our course and bearing due North we passed over the same desolate sandridge and porcupine country for the first eight (8) miles, then over wider flats and lower ridges. Then came open gravelly undulations, very dense porcupine and occasional sandridges for the remainder of the journey.

Camped at 4 a.m., having travelled twenty-one (21) miles during the night. The air became much cooler towards midnight, thunderstorms occurring to the North and North-East.

No feed here for camels, except inferior dry acacia and coarse herbage.

Thursday, Oct. 22.—The camels were still in the same wretched plight as we moved off, last evening, at 6:45 p.m. on the same bearing. We crossed three (3) small sandridges in the first four (4) miles, the country following consisting entirely of gravelly undulations with sandstone outcrops, dense porcupine everywhere and, in the flats and gullies, desert gums, low, broad-leaf wattle-bush (a new species to me), tall tea-tree and a tree about thirty (30) feet high, which I take to be the Leichardt tree. At six (6) and nine (9) miles we crossed two (2) small, shallow watercourses trending North-West and West respectively; and at fifteen (15) miles sandstone ridges (low) half a mile to the East. At sixteen (16) miles we again entered high, sandridge country, and camped at seventeen (17) miles, after our moonlight walk, at 1:40 a.m. Finding a little broad-leaf wattle here, which the camels were biting at as we went along, I did not like passing it.

Latitude by observation, 20deg. 56min. 46sec. South.

A number of smokes are visible from camp to-day to the North-West and North.

We have still sixty (60) miles to travel before reaching the latitude of Joanna Spring, and I am afraid it is sandhill country from here, as we are now in close proximity to Colonel Warburton's route.

The weather continues very hot and trying, and it is over a fortnight since we experienced a cool day.

Friday, Oct. 23.—We started at 7 p.m., last evening, on the same course. It is still moonlight. We crossed innumerable sandridges, dense porcupine, a little broad-leaf wattle, and another very coarse species which the camels will not eat, and which is, of course, most abundant.

At eight (8) miles we chanced upon a patch of half-green herbage (water-bush) on sandridges, and I decided to camp at 11 p.m., having found a fresh native foot-print.

The camels, feeding only for a short time, then made off to the North-East. They are really unable to eat, and look most wretched. We are now, again, in a most critical position. My cousin's riding camel (Mahdi) has become so weak from want of nourishment and water that I am giving him a bucket of water from our scanty supply, now about thirty (30) gallons. This camel also had an extra bucket on the 18th inst.

This morning, finding the fresh tracks of two (2) natives, I started, with Bejah, to run them. We found it most difficult work owing to the number of times the track went up and down and backwards and forwards over the ridges; this, combined with the stifling heat, greatly fatigued us, and after two and a half ($2\frac{1}{2}$) hours we found ourselves almost back at camp, having, by some means or other, made a mistake. After a short rest we went out again, this time taking Said Ameer with us, and after two (2) hours tracking we came upon a native camp. Seeing a blackfellow I ran for him, but found he was a cripple left in charge of five (5) children. He could not understand English and I did not know his language, although the words "Wilarra" (moon) and "Burrna" (sand) were familiar to me, resembling the language of the Murchison tribe at Morarie Station. I also gathered that the word "Napa" meant water.

At this spot, in a miserable drift-sand gully or trough between real sandridges, we found a soakage well about ten (10) feet deep, with water showing in the bottom, but the drift only allowed about an inch of water over its surface. Pushing a stick into the sand I found the bottom at eight (8) inches in one place and eighteen inches in another.

To the North-East of the well, distant about four (4) miles, is a sandstone outcrop, and there is no other feature to indicate the position of this spot. We returned to camp at 2:30 p.m., having walked eight (8) miles in search.

Gathering some of the greenest parts of the herbage (water-bush) we carried it to the famishing camels, some of which were in groups under the desert gum trees, while the others, too exhausted to follow the shade, were exposed to the broiling sun. Only two (2) of them would make any attempt at eating, the others apparently being unable to swallow. The sand is frightfully hot to-day.

Saturday, Oct. 24.—Last evening, at 8 p.m., we continued on the same course which took us West and within fifteen (15) chains of the well, at one and a half ($1\frac{1}{2}$) miles. We had difficulty in getting two (2) of the camels this distance; they lay down repeatedly, so as a last resource, I decided to camp and test the well.

We all turned in and camped close together, thinking it possible that natives might be about. At 10 o'clock Mr. Keartland roused me with the intimation that he could hear, to the Eastward, natives talking. Shortly afterwards we heard them coming toward us, and jumping up I went to my saddle getting in place of my Winchester a revolver, which I secreted within my shirt. I also got ready some shirts and coloured handkerchiefs, and then waited. Coming to the top of the sand ridge nearest to us they all appeared to call in one voice, "Yarra!" I replied likewise, when they repeated the call, which I believe means "Come." Thinking they meant to be friendly, I went over, in the moonlight, and met eleven of the ugliest looking savages imaginable. They each carried two (2) waddies, whilst the elder of the group had in addition a shield; his forehead was painted white, and he wore on his head a plume of white feathers. I commenced to pat the shoulders of the natives, while they examined me and made a most horrible noise with their tongues and lips (an exclamation of astonishment). Mr. Keartland joined me, bringing his trusty gun, at which the natives looked a-kane. Trainer brought up some tinned meat, and Bejah and Said Ameer also put in an appearance. "Napa" being the only useful word of their language with which I was acquainted, I endeavoured to explain our need of water and the direction in which we were going. Two of the younger men, pointing North-West and North, said something about water, and touching their feet, I think were willing to go with us, when suddenly the chief spoke to them in an authoritative voice, and we could not persuade them to say any more on the subject. We did everything in our power to cultivate a friendly relation with them, assuming fictitious names, and indulging in a general laugh.

Giving the chief a sign that we were sleepy, I pointed to our camp, whereupon, on a sign from him, they all threw down their waddies, and he his shield, and walked off towards the well. We returning to camp, were soon asleep.

At daylight we went over to the well, where, lying under a tree, I counted thirty (30) spears which were not here yesterday. The old men, women, and children were all gone, and, as we approached last night, there was no fire visible. There is no doubt that these warriors were lying in ambush and waiting to defend their water. The natives then evidently decided to come over and make friends with us. Yesterday I presented the lame man with a handkerchief and a knife.

Seeing two (2) of the natives on top of a distant sandridge, I called to them, holding up my hands, and they were all soon around us again.

We immediately set to work at the well, digging it out afresh, and securing the sides with logs and porcupine, next making a "paddock" in the bottom with stakes and brush, and an abundance of porcupine placed at the back. A bottomless bucket was then sunk in the centre of the paddock and porcupine forced in all around its sides until we had a bed of this grass of the same depth as the bucket. This effectually coped with the drift sand, and when the bucket became full of water three buckets were filled, and the water was then again allowed to accumulate.

The well made at the rate of two (2) buckets per hour, and by 10 p.m. we had secured twenty-five (25) buckets, which were given to the famishing brutes. Two of them could not swallow the water, which we poured down their throats with a quart-pot.

Sunday, Oct. 25.—We continued at the well the whole of last night, then again to-day until 10:30 p.m., when we had secured altogether sixty-five (65) buckets of water, sixty of which we gave to the camels, having worked the well for thirty-six (36) consecutive hours to obtain this quantity. Owing to the country being destitute of feed and the terrible heat-wave we are experiencing, the poor animals have

not benefited to the extent they otherwise should, and I am afraid two or three of them will not travel much further; the relief has come to late for them.

So far I have managed to get all camels and equipment within fifty (50) miles of Joanna Springs latitude, but as so much depends on our flight now, a considerable quantity of our goods must be abandoned.

Yesterday the natives all disappeared, returning whilst we were at the camp having tea. They drank a considerable quantity of the water we had collected, and taking all the spears, cleared out without our knowledge. I had hoped they would come on with us and take us to a good water.

I have named this water "Adverse Well"; the computed latitude is 20deg. 48min. South, longitude, 123deg. 49min. East.

Monday, Oct. 26.—We left all the tents, most of the tools, provision boxes, one (1) pair of water-kegs, Mr. Keartland's collecting boxes, and small firearms and other articles which we can do without for the present, also all personal property, taking only bare necessaries. All these things we have stacked together and covered with a tarpaulin about fifteen (15) chains South-West of the well. I felt this step to be absolutely necessary, as otherwise we should get nothing through this fiery furnace. Mr. Keartland has still his collection and that of Mr. Jones, with the exception of stones which are very heavy and, I think, not very valuable.

We continued our flight last night at 11:30 p.m., pursuing the same course and encountering most terrible, high, and abrupt sandridges crowned with loose drift. After going up one hundred (100) feet we were often unable to get over them, and were forced to follow along for a better crossing-place. Travelling as we were by night the best places were not discernible, and at one time I thought we should be unable to get the camels over them. Mr. Keartland counted sixty-five (65) of these ridges in eight (8) miles; they covered a wide area, and the troughs between them were very narrow.

Camped at 5 a.m., at nine (9) miles, with little or no feed.

Ants are very troublesome here. One of our best pack camels fell dead on the summit of a sandridge as we came along last night. He was one of the two we poured the water into; I attribute his death to urinic poisoning or inflammation.

Tuesday, Oct. 27.—Last evening Bejah informed me that six (6) of the camels were very bad, and would neither eat nor chew the cud. This, combined with the increasing number of frowning, abrupt sandridges presented to our view, made our position more critical than ever, and our present prospects, with only the remaining animals to carry us along, are anything but alluring. The finding of Joanna Spring I also consider uncertain in such country. I feel the present position most acutely, for after crossing so many miles of such terrible country safely and getting all equipment and camels so far it is a cruel blow to me to be obliged to abandon outfit and collections now. Mr. Keartland, who has displayed so much energy in attending to his duties must also feel it hard to part with all his treasures, but Lindsay Gordon says:—

With adverse fate we best can cope
When all we prize has fled;
And where there's little left to hope,
There's little left to dread.

Leaving everything at camp, stacked in a heap and covered with a tarpaulin, we packed six (6) camels lightly with water-kegs, provisions, and absolute necessaries, the sick camels carrying nothing, and got away at midnight, travelling for the most part on foot. Without any change in the character of the country we moved slowly along until 5:40 a.m., when we reached a small patch of wattle-bush, the first of this species seen for a considerable distance, and the best feed met with for the last one hundred (100) miles. We therefore camped, at 10 miles, to allow any camels that would do so to feed, before it became too hot.

The sick camels all came along, and if I could now find good water and feed, their lives might yet be saved.

I felt confident, when parting from my cousin on the 11th inst., of getting all through safely. Now, since my own experience, I am in doubt as to his welfare and that of Mr. Jones.

Latitude at camp, 20deg. 30min. 15sec. South.

Wednesday, Oct. 28.—We made an 11:30 p.m. start. On the same bearing we got better travelling at from three (3) to six (6) miles, with rubble rises and porcupine, wider flats with desert gums, Leichardt trees, coarse acacia, and porcupine everywhere. In some of the flats there were a few small patches of dry grass.

At 5:30 a.m. we camped, at fourteen (14) miles, on low, broad-leaf wattle bush and a little inferior herbage. The camels have all come along, so far.

Thursday, Oct. 29.—Waiting for the moon to rise last night, we managed to get away at 1 a.m. The sandridges did not improve, but were broken in places, and the flats, towards the latter end of the journey, were wider, though progress still continued to be slow owing to the density of the porcupine and the coarse acacia scrub. We saw a little mallee and, at 8 a.m., having done fourteen (14) miles camped on a flat of broad-leaf wattle and Leichardt trees, the leaves of which the camels eat, if fairly green.

Riding camel (Mahdi) continually broke his nose-line and lay down, delaying us, so finally had to be abandoned. He managed three (3) miles travelling. Two others went down several times, but we managed to get them along.

We are now within two (2) miles of the computed latitude of Joanna Spring, but there is nothing hereabouts to indicate its position—no birds, such as galas, pigeons, or finches, though small flocks of shell parrots have been seen flying in various directions.

As soon as day broke we set alight to the flats as we travelled along, as a signal to my cousin should he be in the neighbourhood.

Friday, Oct. 30.—At 10 a.m. yesterday I noticed a smoke bearing about due East from camp, and thinking it might be from my cousin's signals I gave Mr. Keartland instructions to keep signals going from a high sandridge half a mile North of camp, and at once started off towards it, taking no firearms and only half a pint of cold tea in a small bottle. Firing the country as I proceeded I noticed several other smokes, apparently in the same neighbourhood, and then concluded that they must be from natives' fires. I walked for four (4) hours quite twelve (12) miles, and at 2 p.m. I felt I should not be able to get back if I went further. The heat was terrific, and the fires some miles in advance. Even if I reached them I should find but the tracks of natives; these it would be necessary to run to water, which most probably would be some miles off again. I felt quite exhausted, with scarcely energy enough to make the effort of returning. Retracing my steps as best I could I hardly remember how I got back to camp. Many times, at the semblance of a shade, I sank to the ground with a singing sensation in the ears, going off into a stupid doze only to jump up with a start and push on again. In the flats of dense porcupine and coarse acacia scrub the atmosphere was like the heat from an oven. On one occasion, when rising from the ground I noticed my own boot tracks and found I was going the wrong way. Pulling my shirt, hat, and compass off, I carried them rolled up under my arm and, on reaching the last high sandridge, at 7 p.m., I saw Mr. Keartland's signal fire. Getting on top of the ridge at another spot I could see the camp fire and hear voices, but was unable, through weakness, to call for assistance. After lying on top of the ridge for some time I set alight to some porcupine to attract attention, and afterwards got within a quarter of a mile of the camp, where I was met by Mr. Keartland and Said Amer with relief. Poor Bejah, who was not well and was resting when I started, had attempted to follow me up, but had returned very ill. I saw his tracks seven (7) miles out as I was returning. After almost a whole night's travelling a twenty-four (24) miles walk in such a country and climate is sufficient to kill a salamander.

We are in a most awful position, now, our camels dying for want of water, of which we have about thirty-five (35) gallons left, and we about 125 miles from the Fitzroy River. I have talked our position over with Mr. Keartland and Trainor, and they agree that it would be better to give two (2) of the best camels a bucket of water apiece to assist them in carrying the kegs, and try to push through to the river on a shorter allowance ourselves, rather than waste time in further search for Joanna Spring, which may be ten (10) or twenty (20) miles on either side of us. There are no camels fit to ride a mile by day, and even if there were it would be impossible to get them to travel on account of the heat and burning sand.

Colonel Warburton, with reference to his exploration through this desert, mentions cool days at the end of October and the beginning of November, whilst we have been weeks without a change. He also makes the following reference to his black-boy, who did a similar walk to mine in search of water, on 5th November, 1873:—

"The lad ('Charley') had actually walked about twenty (20) miles after all the fatigue of the previous night's travelling. He had run up a large party of natives and gone to their water."

To show the difficulties to be contended with at this period of the year I quote the following extracts from Colonel Warburton's journal:—

"1873.

"Oct. 1. CAMP 93. Our great disadvantage lies in being unable to make extensive search in our front for want of camels, or to travel by day on account of the heat, which utterly prostrates them. When we move we cannot see; when we stop we cannot search.

"Oct. 10. If the camels were equal to travelling in the day we might get on, and then there would be the hope of water, but nothing can be seen at night.

"Oct. 22. The heat is now so fierce that neither we nor our camels could live long without an abundant supply of water.

"Nov. 12. CAMP 110. We find no appearance of change in the country, and either we suppose ourselves more to the Westward than we are, or else the head of the Oakover is laid down more to the Eastward than it is. The error is most probably mine, as it is difficult to keep the longitude quite correct after travelling so many months on a general, Westerly course."

Postponed starting until to-night.

Latitude at Camp, 20deg. 6min. 30sec. South.

Another camel is just dying, close by; this is the third we have lost.

Saturday, October 31.—Leaving a pair of empty kegs, a fifty (50) lb. bag of flour and some meat extract we started at 8.15 p.m., now without a moon and bearing North 23deg. East.

The sand ridges are showing gaps and becoming lower and more irregular, while the flats are firmer. Travelled about fifteen (15) miles and camped on poor feed as usual.

The time now is a most anxious one for me; I cannot rest by day and feel the night-travelling in the dark very trying. Walking ahead, stumbling over bushes and porcupine, and climbing over loose sand ridges when feeling weak is quite enough without mental worry.

Sunday, Nov. 1.—Slightly altering our course and now bearing North 33deg. East we resumed our nightly march at 6.45 p.m., and found the sand ridges more jumbled, increasing in numbers and with drift tops. Some of the flats were wide, but carried dense lumpy porcupine also Leichardt trees, desert gums, coarse acacia, and scrub of various kinds. Having no moon we experienced much difficulty throughout the night, as we were unable to see the ascent or descent of the sand ridges travelling was dangerous. The camels were continually breaking their nose-lines and so impeding our progress.

Camped, at 2.15 a.m., having travelled fifteen (15) miles. Saw several smokes but all apparently far off. At the present time we have but a five day's supply of water in the kegs, and all the camels are very bad. Indeed I may have to abandon any one of them at any moment as we travel along at night. If we could only get out of these dreadful sand rollers there would be hope of getting along, but otherwise even water is of little value to us now.

Monday, Nov. 2.—Altering our course again to North 23deg. East, at 7 p.m. we were fairly under way, travelling over the same dreadful country. Towards midnight we found the burnt flats well cleared of the porcupine; this greatly assisted our progress.

Travelled sixteen (16) miles, camping at 2.30 a.m. on a little wattle-bush and some Leichardt trees for the camels. Some of the camels began to feed in the early morning, which happened to be unusually cool.

Latitude by "Canopus" 19deg. 30min. 17sec. South.

We are now within eighty (80) miles of the river, and should push through in four or five nights if the camels will hold out. Our water supply is very short and the heat increases daily, to-day being most trying. One cannot sleep after 7 a.m. owing to the heat and the small, yellow bees which crawl over one's face and arms and into one's nose and ears. Ants are also very busy.

My eyes are painfully sore, and Mr. Keartland is troubled in the same way. I attribute this to our restricted diet—tea without sugar or milk and damper, with occasionally a little meat extract mixed in our tea.

Tuesday, Nov. 3.—On the same line we continued our weary plodding at 6.45 p.m. last evening, after a wretchedly hot and trying day, followed by one even more unbearable, which has completely prostrated us all. We crossed over a little gravel undulation and then again over sandridges which continued up to 1 a.m., when, at fifteen (15) miles, I rode my camel into a shallow, native well which I did not see in the dark. Thinking we might find water by daylight I camped. There is a low sandstone depression here and a few wattle bushes.

We dropped two (2) more camels as we came along, being unable to induce them to come any further.

We were all astir at daybreak, but found nothing but several dry holes. Some pigeons and finches visited us during the morning—an evidence that water is not far off, but in what direction and where? None of us can walk far now by day, and even if any one of us could go in search, water from our scanty stock would be required for his use. For my own part, at present I cannot walk one hundred yards in the heat without feeling exhausted.

Wednesday, Nov. 4.—Six p.m. again found us moving off, still over sandridges, some very abrupt, but towards the latter end of the journey they became lower, and the flats wider. Leichardt trees, acacia scrub, and a few ant-hills occurred. I had great difficulty in keeping awake all night, and felt very weak and ill; my throat, too, was horribly parched.

We camped at 2.30 a.m. on a wide porcupine flat with some Leichardt trees and dwarf broad-leaf wattle-bush.

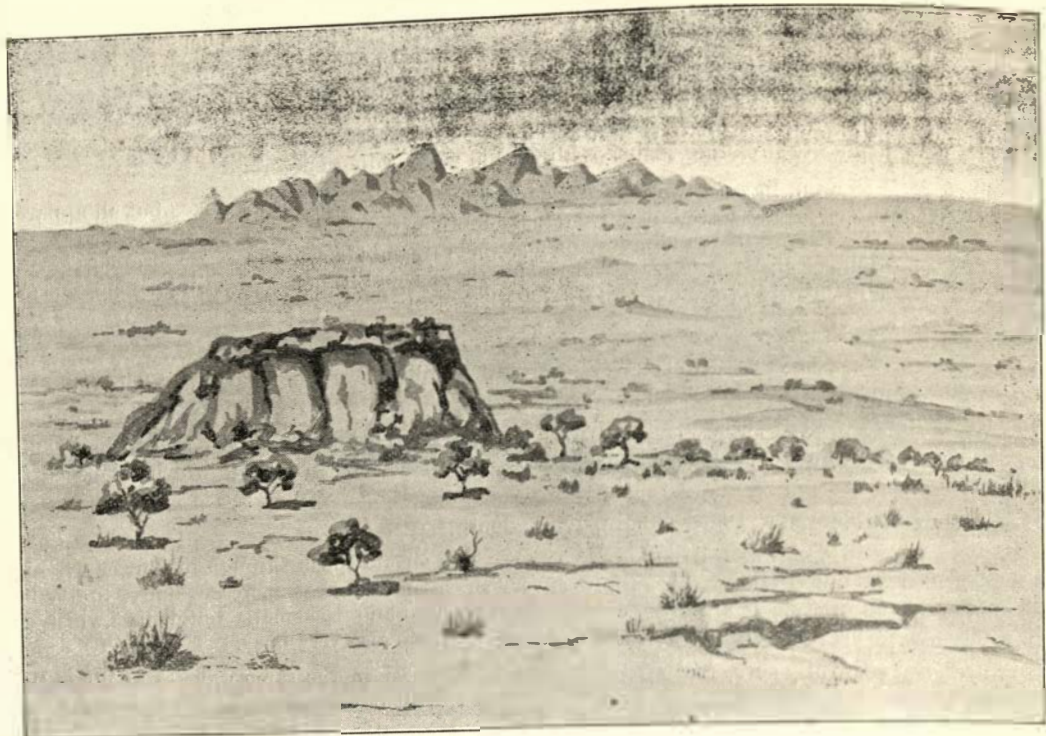
We travelled during the night 16 miles.

Looking Northward the ridges in the distance appear very low, and the flats much wider. A hill with a small knob at its West end bears North 8deg. East, and is about five (5) miles distant. I hope to get a more encouraging view to-morrow if our camels are allowed to carry us on another day.

Since leaving the latitude of Joanna Spring myself and Bejah have ridden through each night until 2 a.m. without shirts or hats. We got many scratches on the body from the acacia scrub, which, with the leaves burnt off, we could not see at night.

Thursday, Nov. 5.—With a 7 p.m. start and a great improvement in the travelling, we passed outcrops at either side of us at four (4) miles, and small hillocks of sandstone amongst the sandridges throughout the night. The flats being wide and burnt assisted us greatly, as did also a strong North-West wind. We continued on until 4.30 a.m., camping just at daylight in a large, swampy, tea-tree flat resembling a watercourse. It extends some distance to the Eastward and is half-a-mile wide. The feed is very poor here. After lying down for two (2) hours I walked Northward to the first sandridge and was greeted with the sight of several conspicuous hills. A remarkable-looking hill with apparently a double top bears West-South-Westerly, but it is not shown on Mr. Alex. Forrest's map. A high peak with a flat-topped hill I take to be "Mount Tuckfield" in the St. George Range of Mr. Alex. Forrest, bearing North 78deg. East, whilst a hill I take to be "Mount Fenton" bears North 94deg. East and is distant about five (5) or six (6) miles. If this be correct I should pass, on my present bearing, about four (4) miles to the West of this hill instead of one (1) mile West as was my intention, when shaping my course from Lake Way. That this is the hill there is but little doubt, and I feel thoroughly satisfied

that, from my previous fixing, whilst on the Elder Expedition, of a hill near Lake Way, I should have been only three (3) miles out of my reckoning in a seven hundred (700) miles traverse.



View showing Mt. Tuckfield in St. George Range and Mt. Fenton in foreground.
(From near Camp, Nov. 25th.)

We travelled for nine and a half ($9\frac{1}{2}$) hours last night, and covered twenty-two (22) miles.

The camels are very bad, many of them making a peculiar noise in the throat, and all of them have their tails matted with a gluey, urinic matter. I managed, after seeing six (6) cockatoos, to walk two (2) miles up the flat in search of water, but found it as much as I could do to get back again, after a fruitless search. We are about twenty-seven (27) miles from the river now, and have not sufficient water left to last out to-morrow. I have hope of clearing the desert country early to-night, and of getting better travelling.

Friday, Nov. 6.—I detained the caravan last evening, before starting, while endeavouring to observe for latitude to ascertain our exact distance from the river, but was unable to get an altitude, owing to the cloudy sky.

We got away at 7:15 p.m., slightly altering our course to strike the nearest bend in the Fitzroy River and are now bearing North 35deg. East. We crossed loose sandridges and wide flats of acacia scrub, tall tea-tree and samphire flats, and marshes. At four (4) miles we cleared the last sandridge when the cooler atmosphere was at once noticeable, and we could smell the long tropical grass, although it was too dark to see it. I noticed a species of eucalyptus resembling a bastard bloodwood, also the baulinia or bean-tree. The country was undulating, with patches of fair pasture, but a great deal of porcupine, through which we had to travel for almost a whole night.

Selecting a star about the required bearing I instructed Bejah to steer in that direction for an hour and then call me for another bearing, while I rode in the rear and had a sleep.

About midnight I again went in advance. At 3:30 a.m. a duck flew from the dry grass, but it was still too dark to see anything. At 4 a.m. I noticed some dark-looking objects on our right, and thought they were cattle; then we heard a bellow from a bullock, and I could then see a mob stringing slowly along, and feeling certain they must be coming from water, I called to those in the rear of our party.

We continued on, now following cattle-pads, and at 5 a.m. it became light, and on either side of our course we saw lagoons abundantly supplied with water. Taking the one on our right, we camped on its banks after ten (10) hours travelling, having taken the poor camels over twenty-five (25) miles of country.

The camels have now had a bucket of water apiece, and Said Ameer is shepherding them about half-a-mile to the Northward, on some bushes.

The lagoon is a pleasant sight, and teems with wildfowl.

This evening we moved on for two-and-a-half ($2\frac{1}{2}$) miles North, and crossed the river, camping before dark on its North side. There is a little fair feed here for the camels.

After our experiences of the last two (2) months, the Fitzroy River was a pleasing sight. Great was our delight on seeing such a body of crystal-clear water in a wide channel of sand and shingle.

shaded with a fringe of magnificent paper-bark trees (Cajeput), gum-trees, palms, bamboos, and other tropical vegetation. The river teems with fish and wildfowl of many varieties, and hundreds of kangaroos come to water from the well-grassed plains. This beautiful sheet of water affords a striking contrast to the dreary five hundred (500) miles of wilderness, with its burning sands, scanty shade, and precarious waters, through which we have just passed, the borders of which are but twenty (20) miles distant.

My only anxiety now is for my cousin Charles and Mr. Jones.

Although unsuccessful in getting the whole of my equipment through, and losing Messrs. Keartland and Jones' collections and five (5) camels, now that I know the nature of the country and climate, I feel that we did well to get through at all; and had the start from Adelaide been in February or March, as I wished, instead of May, I believe we could have brought all through safely; and even under prevailing conditions, if we had found feed for our patient animals we should not have suffered such reverses. I have always held and expressed the opinion that February would be the most suitable month to leave Adelaide on such an undertaking.

Saturday, Nov. 7.—The feed is pretty good here, and the camels are now allowed to drink as they please. They are very weak; two are very bad indeed. This morning I walked North-Westerly, getting clear of the river flats in about three (3) miles, where I reached some low ironstone rises and knobs, at foot of which is a nice lagoon of water with numerous wild-fowl. "Mount Tuckfield" is conspicuous to the South-East, "Mount James" to the South-West, and "Mount Abbott" to the North-West.

Mr. Keartland shot a kangaroo—a peculiar species which has a nail, resembling a toe-nail, at the end of its tail.

Sunday, Nov. 8.—Packing the camels we started for the lagoon seen by me yesterday. The flats of flooded ground were hard and uneven, and we had difficulty in getting the weaker camels along. After going half-a-mile one of the camels lay down; after repeated efforts we got him on his legs again, but only for a few minutes, so were compelled to leave him for a while. I noticed that several of them, since drinking water, have some affection of the loins. Probably the kidneys are affected; they eat little and do not chew the cud.

On account of the state of the camels, we camped on reaching the lagoon. During the evening Bejah returned, bringing in the sick one.

We saw here native companions, cranes, ibis, ducks, spoonbills, turkeys, pelicans, waders, and other water-birds. I managed to bag another kangaroo as we came along, this morning.

Monday, Nov. 9.—Leaving the lagoon at 7 a.m., we travelled North for one (1) mile to a creek, and crossing this we struck the track leading from Derby to the Crossing. It was quite a treat to find a road after so much rough, cross-country travelling. We managed to get all the camels along for ten (10) miles to another large, deep lagoon on the side of the road, which is practically permanent. Here we found the mail contractor (Mr. Flinders), camping during the heat of the day. He was on his way to the Telegraph Station beyond the Crossing. I scribbled a telegraph message on to the President of the South Australian Branch of the Royal Geographical Society (Mr. Simpson Newland), informing him of my arrival on the Fitzroy River, and intimating my intention of telegraphing detail through Mr. A. T. Magarey (agent for Mr. Calvert) in a few days. I also sent a message to Mr. Scott, in charge of the Fitzroy Telegraph Station, asking him to send me word by natives whether my cousin and Mr. Jones had arrived there, or, if not, any news he might have of them or their whereabouts.

Tuesday, Nov. 10.—Leaving camp at 6 a.m. we left the main track, taking one to the right which leads to Noonkanbah Station on the banks of the river, which we reached at four (4) miles. Mr. Judd, who was in charge, received us kindly. We were unable to get any rations here. Owing to the heat and the weak state of the camels I purpose resuming travel to-night.

Wednesday, Nov. 11.—We left Noonkanbah at 7 p.m.; following a faint track by moonlight for six (6) miles, again cut the main track, which we followed four (4) miles, reaching Poison Camp Water-hole in a billabong along the side of the road. We managed to get the camels along fairly well, Bejah walking behind led the worst two.

Should my cousin not be in the Fitzroy or at the Telegraph Station he may have found Joanna Spring, and in that case would camp there for a week or ten days awaiting our arrival. I told him, if successful in finding water there, not, in any case, to stay longer than his provisions would permit, but to continue on to the Fitzroy, as we might not find the Spring, or something else might happen to prevent us turning up.

Thursday, Nov. 12.—Left Poison Camp at 6 p.m., following the track. There were hundreds of whistling ducks feeding out on the dry grass flats.

We reached Quanbun at 2 a.m. Mr. Rose, one of the proprietors, was up to meet us, and showed us a camping-place where we turned in until 8 a.m.

This morning I plotted my traverse from Lake Way to Joanna Spring latitude, and began a full report of proceedings to Mr. A. T. Magarey, which I finished after tea.

Mr. Rose has kindly volunteered to send a black-boy on horseback to the Fitzroy Telegraph Station to catch the mail, which is waiting for me until the 14th inst., and goes back to Derby by another route.

I am glad of the chance of rest, and indeed it would be as much as I could accomplish to get there in time to send my report by mail.

Friday, Nov. 13.—I sent my report by Mr. Rose's boy this morning, and a short telegraph message to Mr. Magarey. One of the camels is still very ill, and does not chew the cud—a bad sign after so long. The other sick one is improving, but none of them are doing very well, the feed being poor, the herbage

all dry, and top feed scarce. No rain has fallen here since March last, and the season is considered a bad one.

Saturday, Nov. 14.—The worst of the sick camels died this morning; he has had everything possible done for him by Bejah, but was too far gone to recover.

To-night we must continue our journey for the Telegraph Station, so that I can telegraph Mr. Magarey. 6 p.m.—The boy has returned with letters and telegrams, and I regret to learn that no tidings of my cousin are to hand, also that telegrams have been despatched to Perth and elsewhere announcing the fact that two (2) of my party have been lost. I feel annoyed that this should have been done, as it will, perhaps, create unnecessary alarm.

Sunday, Nov. 15.—At 9 p.m. last evening a native messenger arrived from the Telegraph Station with telegrams from Mr. Magarey concerning the non-arrival of our friends, and also a message of congratulation and sympathy in one from Sir John Forrest, Premier of Western Australia.

I feel my cousin's absence most acutely, and cannot think what has happened, unless he has found water at or near Joanna Spring, and spelled some time. It is also probable that they may be on the Southern side of the river; the flats are several miles wide, and numerous creeks and billabongs exist all along its course. The road on the Northern side is, in places, some miles from the main channel. At the present time I feel I can do nothing towards finding them. These camels are almost useless now for day-travelling in the desert, and even if I had strong ones little could be done at this time of the year, especially beyond a distance of eighty (80) miles out from here, except at night, and then we could see nothing.

Mr. Magarey telegraphs to take water back along my track. Bejah is of opinion that one of these animals could carry full kegs, and another half-full kegs of water by night-travelling, but doubts if, without water and feed, they will do four days, viz.:—two out from the river and two back. I believe we can find feed twenty (20) miles out from the river on the grass country, and could go further from there.

I am starting Mr. Keartland, with Trainor and Said Ameer, for the Telegraph Station with the worst five (5) of the camels, and instructions to find feed for them and to reply as well as possible to telegraph messages from Adelaide.

This morning I left Quanbun with Bejah and Said, taking six (6) of the best camels and a fortnight's rations. We travelled back along the track for three (3) hours, when it became too hot to proceed further till evening, when we reached Poison Camp, having travelled twenty (20) miles.

Monday, Nov. 16.—Reached Noonkanbah at 10 a.m. We let the camels go on the river bank until 3 p.m., then crossed the river, and followed along the flats for seven (7) miles, camping on a large water hole in a billabong, where there were some beautiful flowering water-lilies. We found a patch of fair camel-feed here.

A hut ("Kallaida") lies to the South-East, about one and a half (1½) miles distant; and a few miles beyond is the St. George Range, which appears very rocky and rough.

Tuesday, Nov. 17.—Having filled our kegs, we travelled W.S.W. to my halting-place of the 6th inst., and thence along our incoming route, losing time in endeavouring to run the old track. This we found most difficult, owing to the long grass, hard clayey nature of the soil, and recent slight thunderstorms which have occurred for the past six (6) weeks in various directions. At 5 p.m. I found a small pool of water, which I must have passed close by on the morning of the 6th inst., as it was too dark at that time to see anything. Camped here, having travelled about ten (10) miles. Owing to the uneven nature of the country and the loads of water the camels can only travel at a snail's pace.

Wednesday, Nov. 18.—Following as near as possible the incoming route we saw our old tracks several times in the porcupine.

Camped at 2 p.m. on some fair bushes for the camels, which were completely done up, being weak and only able, with their heavy loads, to travel slowly over the porcupine.

Thursday, Nov. 19.—Getting away very early we reached the edge of the sandridges or desert proper at nine (9) miles, and continued on until 1.20 p.m., eventually finding my camping-place of the 5th inst., which we first passed by, losing nearly two (2) hours in looking for the tracks, until I found a spot where we had crossed a sandridge. There would be little chance of finding the water here even if we left some, so, as the camels were completely done and totally unfit to travel further back over the sandridges, I decided to return to our camping-place of the 5th inst.—a spot at the Western end of a dense belt of tea-tree.

Travelled fifteen (15) miles, and let the camels lie under some shade until the evening. We placed logs under the kegs to protect them from white ants, and shaded them from the rays of the sun with tea-tree boughs. We put a pole between the kegs, to which we tied some provisions, leaving a note for my cousin in case he should ever reach the spot. The track is so obliterated by drift sand and thunderstorms that it is almost certain they could not follow it. I am afraid that bringing this water back was only interfering with the recovery of the best of the camels.

At 5 p.m., having got rid of the water, we travelled on the return journey five miles to a patch of feed seen coming out, as there was not a bite where the water was left.

Friday, Nov. 20.—Starting early we travelled until noon, then, resting, went on during the evening to the lagoon where I previously halted on the morning of the 6th inst.

Travelled in all eighteen (18) miles.

Saturday, Nov. 21.—Travelled to Noonkanbah Station, 12 miles. Here I met Trooper Pilmer, of the Fitzroy Police Camp, who informed me of his unsuccessful examination, with trackers, of the Southern side of the River.

Hearing of a native who is reported to know the country to the Southward ("Pinndann" country) for a considerable distance, I arranged to camp here to-night and accompany Trooper Pilmer, who intends trying to reach Joanna Spring with horses and natives to aid in the search.

Sunday, Nov. 22.—Awaiting the arrival of the native, who is at present engaged somewhere on this run.

Instructed Bejah, with Said Ameer, to travel slowly with the camels, camping on the best feed for them, and return to the Telegraph Station.

Monday, Nov. 23.—The native arrived at 1 p.m. With four (4) picked horses from the police mob, and the native, we started during the afternoon, and crossing the river travelled thirteen (13) miles to my camping place of the 17th inst.

Tuesday, Nov. 24.—We started at 5:40 a.m. and found that the native was unable to discover my old tracks. He took us to a Spring, "Kammamarra," (Pilmer Spring) which we reached at fifteen (15) miles. It is about one and a half ($1\frac{1}{2}$) miles East of my route of the night of Nov. 5th, and is a permanent water in limestone rock, on a slight elevation of very dark soil, clothed with a perfect mat of soft, springy grass.

We rested here until the cool of the evening, and then travelled South-Easterly to a soakage well, here we found fresh tracks of natives but little water. Unable to get a drink for the horses the native then spoke of another to the North-North-West which we reached at two (2) miles. It is in a belt of dense wattle and tea-tree, with a samphire marsh on its Western side. It resembles "Kammamarra," and is called by the native "Kullajoda" (Nicholson Spring). The water is slightly brackish, charged with soda and about six (6) feet from the surface, with nodular limestone in the holes at bottom.

Travelled for day twenty-one (21) miles.

The native states that he does not know the country South of this, but the country East and North-East is his country.

Wednesday, Nov. 25.—Returning to the soakage well seen last evening, which is about due West of Mt. Fenton distant about one and a half ($1\frac{1}{2}$) miles we picked up the tracks of natives and followed them. Bearing South-Easterly for four (4) miles we found their camp of last night at a spot where there was no water. The fire was still burning, and in the distance, up a flat between sandridges, we saw a lubra and child and gave chase, suddenly losing sight of them however.

Having passed the spot where they were last seen we returned, the boy then running their tracks and finding them in a clump of porcupine completely hidden from view by loose tussocks, which the old lady had pulled up and pushed over her back. She was almost blind, so the trooper decided to take the child, who was only about nine (9) years of age. She walked in advance of us in a South-Westerly direction for four (4) miles to a poor soakage well without supply for our horses. The boy could understand her, and said she belonged to his tribe and did not know the country any further South. However, still keeping her prisoner, we travelled West-North-West to a well called "Karraga" where Trooper Pilmer had arrested a number of natives, last year, for cattle-killing, reaching it at four (4) miles.

Camping at this spot we commenced to dig the well out with a native "coolamin" and a bucket. It was a trying job in the heat, and Trooper Pilmer and the boy did most of the work, as I was too weak to keep at it long. The water was reached at twelve (12) feet, but owing to the drift which came up from the bottom with the water we were unable, although we worked till dark, to get more than half a bucket for each horse. We had no implements with which to cope with the drift, otherwise I believe we should have got a good supply, as I am of the opinion this is a spring covered up by the sandridges.

Travelled for day about sixteen (16) miles.

Thursday, Nov. 26.—We got about a bucket of water apiece for the horses, this morning, and letting the native child go, we left "Karraga" travelling due South for a smoke seen last evening. At five (5) miles, from a low, stony ridge, a conspicuous pyramid hill was visible to the East-South-East about four (4) miles distant. Continuing on through dense porcupine and scrub of coarse acacia we found it difficult work for the horses; the going was very loose for them, and they became greatly distressed. At nine (9) miles we found some shallow, dry clay-pans, and a quarter of a mile Eastward, a small, native catchment, holding in all only about fifty (50) gallons of dirty water. We camped here till noon. One of the horses rolled in the hole and made the water very thick. Although we tried boiling it and mixing ashes with it we were unable to clear it. From here smokes were visible to the South-South-West, and a conspicuous bluff point or headland (Scott Headland) of some table hills lies to the South-West. Travelling to the latter we reached the highest point, where we climbed to the summit and could see that the smokes were a considerable distance off—fully fifteen (15) miles from the bluff. Mr. Pilmer thought it would be too risky to attempt finding a water in that direction, the horses being in low condition and about done up. I was of the opinion, when we left the river, that without the assistance of natives to show us water in easy stages we should not get very far. In such country, and under such climatic conditions it is sufficient for an animal to travel direct from water to water, without having to go miles in search of a drink. We returned to the clay-pan where there is enough water, or rather clay and water, to last the horses and ourselves to-night and to-morrow morning.

Friday, Nov. 27.—Trooper Pilmer has decided that his horses are not fit to ride in further search of water, and intends to retreat to the river.

Travelled direct to "Kullajoda" Spring, which we reached at fifteen (15) miles. Two of the horses knocked up before we got clear of the sand ridges.

We experienced a thunderstorm, and about fifteen (15) points of rain fell, giving us a wet bed for the night. I brought no rug, sharing one with the Trooper, so we had a steamy night.

Saturday, Nov. 28.—Pursuing a course of North 37deg. East, we travelled direct for Kallaida Cattle Station, reaching same at twenty-two (22) miles. We found Mr. Mills, who was in charge, at the hut, and he received us very kindly. Trooper Nicholson and black-trackers also arrived during the evening from an inspection down the river.

Mr. John Collins, of the Oscar Range Station, was camped about two miles from here, and came over to see me. He informed me that he had been in the district since 1882, and from his experience October and November were the hottest and most trying months for stock. In December thunderstorms frequently occur, and the rainy season generally sets in about the end of the year.

Sunday, Nov. 29.—As the horses were knocked up we were unable to travel further than Noonkanbah to-day, which we reached at nine (9) miles.

Monday, Nov. 30.—Travelled, *en route* for the Crossing, to "Seven-mile Billabong," seventeen (17) miles.

A thunderstorm occurred at 8 p.m. and lasted over an hour, but not much rain fell. We spent a miserable night, having but one rug between us, the steam from which was more than I could tolerate after 3 a.m., so I turned out and lit a fire.

Tuesday, Dec. 1.—Travelled to Quanbun Station, seven (7) miles, and thence to a waterhole in the river, twelve (12) miles further, making (19) miles for the day.

Wednesday, Dec. 2.—Travelled to Crossing, ten (10) miles, and thence to Telegraph Station, eight (8) miles, which we reached at 1 p.m.

Telegraphed result of search to Mr. A. T. Magarey. Mr. Keartland informed me of Mr. N. Buchanan's arrival from Kimberley for the purpose of further search. Sent messenger after Mr. Buchanan informing him of my return.

Mr. Buchanan arrived from Gogo Cattle Station during the afternoon.

Thursday, Dec. 3.—Received telegraphic message from Mr. Magarey intimating a wish that I should join Mr. Buchanan. As requested I waited for further messages from Mr. Magarey, whilst Mr. Buchanan returned to Gogo to prepare for a start.

SEARCH EXPEDITION.

MEMBERS :

Messrs. N. Buchanan and L. A. Wells.
George (native).
Bejah (Afghan).

EQUIPMENT :

Eight Camels.
Two pairs of Water Kegs.

1896.

Friday, Dec. 4.—Left Telegraph Station near crossing on Upper Fitzroy River, and travelled to "Gogo" Cattle Station to rejoin Mr. Buchanan. Travelled seven (7) miles.

Saturday, Dec. 5.—Inspected camels, selecting four (4) of the fittest of my animals, which are not much improved yet, as there is no herbage here and the feed is inferior.

Preparing for a start to-morrow. Mr. Livingstone, manager of this run, has been most kind to my men during their stay here, for the purpose of spelling the camels, whilst I was absent.

Instructed Trainor and Said Ameer to return with the seven (7) remaining camels to Mr. Keartland, who is at the Telegraph Station, and whom I have empowered to act during my absence.

Sunday, Dec. 6.—Leaving "Gogo" at 11:30 a.m., we travelled to the crossing, which we reached at three (3) miles. Here we found the river in flood. Heavy thunderstorms, no doubt, have taken place in the King Leopold Ranges, as it was running at the rate of six (6) miles an hour. We spent some time attempting to cross. I got my riding camel into five (5) feet of water, and he refused to go another yard, the current being too strong. Mr. Buchanan then sent his black boy in with a pole to some teatree in the channel, and he found deep water there, just beyond where I attempted to force my camel. Finding that the water was falling, Mr. Buchanan thought it advisable to camp on the banks of the river until morning, in the hope that it may be possible to cross to-morrow, as the river rises and falls very quickly.

Monday, Dec. 7.—The water having fallen but one (1) foot during the night, we decided not to wait longer, but to follow along the South side as best we could. Owing to a big sweep of the channel to Southward, and numerous creeks and billabongs, the distance is further, and the progress more difficult, than following the track on the Northern side.

Camped at twenty (20) miles, after a halt of two (2) hours during the middle of the day.

Tuesday, Dec. 8.—Followed along flats adjacent to the Fitzroy, halting for three (3) hours during the middle of the day, and camping at twenty-four (24) miles. We experienced some difficulty with the camels belonging to me, as they are still weak. Mr. Buchanan's riding camels, on the other hand, are fresh.

Wednesday, Dec. 9.—Travelled to crossing opposite "Noonkanbah Station," camping at 19 miles. The camels, owing to the heat, gave more trouble to-day, and we find it will be impossible for the future, during the hottest days, to travel them after 10 a.m.

Thursday, Dec. 10.—We walked across the stream here to the station, and although the water was but four (4) feet deep, the current was strong.

The mail arrived shortly after we crossed, and my correspondence, the first I have received since leaving the South, included letters from Mr. A. T. Magarey, agent for Mr. Calvert; also letters from friends.

Sent on to Mr. Keartland mail-bag containing letters for other members of the Expedition.

Friday, Dec. 11.—Travelled to "Kallaida" Cattle Station, eleven (11) miles. Camped with Mr. Mills, from whom we obtained a few supplies.

Saturday, Dec. 12.—Starting for "Kullajoda" Spring, near Mt. Fenton, we travelled twelve (12) miles, camping at 11:40 a.m., when it became very hot, and quite unfit for the camels to travel.

Sunday, Dec. 13.—Continuing our journey at 6:20 a.m., we travelled to the spring, reaching it at ten (10) miles.

Made a well to fill water kegs and sent the camels to water at "Kammamarra Spring," about two (2) miles distant, the supply here being limited, as we have not opened up the spring to a greater depth.

Monday, Dec. 14.—We experienced a heavy thunderstorm last evening, about one-third of an inch of rain falling. It is still showery this morning, and the ground is slippery. We were compelled to deepen the well to get sufficient water for our kegs.

Tuesday, Dec. 15.—Another heavy thunderstorm this morning, and three-quarters ($\frac{3}{4}$) of an inch of rain fell, delaying our start until 7:40 a.m.

Travelling in a South-South-West direction for fourteen (14) miles, we reached the small claypan found by myself and Trooper Pilmer last month. The camels felt the heat from the sand very much during the last three miles.

The rain had extended thus far, filling the small native catchment, which, however, will last only a few days, on account of the intense heat.

We noted, this afternoon, a smoke bearing North 189deg. East. It is, apparently, about the same locality as one seen whilst myself and Trooper Pilmer were here with horses.

Wednesday, Dec. 16.—Getting a start at 5:40 a.m., and travelling in the direction of the smoke seen yesterday, we passed a dome-shaped hill at two (2) miles, about fifty (50) feet high—a rather remarkable feature of sandstone formation—and at four (4) miles a bluff point on our left. This is part of a range of broken sandstone, flat on top.

At thirteen (13) miles we saw some recent footprints of three (3) natives. Camped a little further in advance at 3:30 a.m., the heat being too severe to admit of proceeding further to-day.

About 4 p.m. Mr. Buchanan's native boy, George, saw two (2) dingoes (native dogs) on the last sandridge crossed. Going with him, along our camel pad, to the other side of the ridge, we found the tracks of two (2) natives, who had followed our pad. They had crawled on hands and feet almost to the summit of the ridge and, evidently seeing us, had bolted off into some coarse acacia scrub. We tracked them for some distance, finding some green leaves they had dropped from their girdles as they ran.

Returning to camp, arranged with Mr. Buchanan to run the tracks to-morrow, in the hope of finding good water for us to fall back on in case of need.

Thursday, Dec. 17.—At 5:40 a.m., having packed the camels, commenced running the tracks of the two (2) natives. Generally bearing South-Easterly, and after travelling about one and-a-half ($1\frac{1}{2}$) miles, we found their deserted camp, and a rock-hole containing sufficient water to enable us to give the camels a small drink apiece. Finding a considerable quantity of sand or silt in the hole, we decided to let the camels go on a little feed around the spot, and to dig the rock-hole out. Sinking about seven (7) feet, we found a rock bottom twelve (12) feet from the surface. When full, this hole will hold 1,600 gallons of water. It is in hard sandstone, the surface of the rock only being visible in the flat, which is between low sandridges. Its position is latitude South 19deg. 8min. (approximate) and East longitude 124deg. 26min. (approximate).

To-day is oppressively hot.

Just after sunset the native boy, "George," noticed a native making slowly towards the well, under cover of some bushes in the flat. He was evidently endeavouring to reach the rock-hole without our knowledge. George induced him to stay whilst I went and met him. He appeared exhausted and suffering from thirst, having evidently come some distance, expecting to find his friends here, but, seeing us, was afraid to come to the water. Unable to endure further travelling, he had waited until dusk, in hope of getting a drink unperceived. Taking him to the rock-hole I showed him that it was empty. At camp he drank a very considerable quantity of water from the kegs; we also fed him. George did not understand a word of his language, but knowing that the word "Najpa" meant water, I ascertained that he could take us to the South-West from here. Mr. Buchanan was anxious to handcuff him and chain him up, in case he should bolt during the night, but I was afraid that if we did so he would tell the next natives we came in contact with, and perhaps scare them away, so interfering with our chance of getting information from the tribe further South.

Friday, Dec. 18.—The native slept close by me last night, and seemed pleased at the prospect of accompanying us.

Leaving the rock-hole ("Tallingurr") at 6 a.m., the native, now acting as guide, we travelled on a general bearing of North 252deg. East for ten (10) miles, reaching a soakage well, in drift sand, fifteen (15) feet deep, with but little water in the bottom. The shaft is small, running to almost nothing at the bottom. Even if there is a supply here it would take two (2) days' hard work to make the well serviceable.

Camped under a Leichardt tree close by, at 10:30 a.m. The sun is now almost overpowering, and the camels, directly they are let loose, try to find shade, for which they fight.

The native points in a Southerly direction, and says there is another water called "Ngowallarra" not far distant, and one closer still called "Dillawuddi." This well he calls "Tannqulla," the approximate latitude of which is 19deg. 10min. 30sec. South, and East longitude, 124deg. 15min.

There is nothing here for the camels except a few Leichardt trees, the leaves of which they will eat if very hungry.

Saturday, Dec. 19.—The camels were in line at 6 a.m., our guide first pointing on a bearing of North 160deg. East, and, afterwards North 202deg. East for four (4) miles to a rock-hole, which we found dry. This, he informed us, was "Dillawuddi." He then altered his course to North 160deg. East, and at seven (7) miles on this bearing he gave me a sign to keep quiet. We were then a quarter of a mile in advance of the rest of our party, who were making progress as best they could over the sandridges, one of Buchanan's camels repeatedly lying down, owing to the heat. Crossing a rather high sandridge, we surprised a native boy about fifteen (15) years of age; he was alone and asleep in a wurley dog these desert natives possess. He had with him some dingo pups—the only species of dog for reason of one of their tribal customs. Undoubtedly the boy was at this time isolated from his friends or tribe and was highly amused at the camels and our appearance in general.

This water, "Ngowallarra," is apparently a strong soakage or a spring in a small natural depression on the South side of the sandridge. There are some tall, broad-leaved wattle trees growing here, similar to numbers which grow at "Kammamarra" and "Kullajoda" Springs, as before described. I have named this "Welcome Water." As the well was in drift sand, we were unable to dig it out and make a good job of it without the loss of another day, so we baled out the water with a quart pot as it came into the hole and managed to obtain three (3) buckets apiece for the camels by midnight. Found very little feed here for the camels, except some creeping weeds growing around the well, which we gathered and gave them.

I make the latitude of this water 19deg. 13min. 26sec. S., and longitude 124deg. 15min. E.

Sunday, Dec. 20.—Made our start again at 6 o'clock, taking with us both natives, and bearing generally North 160deg. East. The weather was excessively trying from quite early morning, and one of Buchanan's camels threw himself down fully a dozen times. After crossing a rather wide, cork-bark flat, we reached another native well called "Waddru" (Escape Well), at twelve (12) miles. Little or no feed here.

During the afternoon Bejah and self dug out the well, which is twelve (12) feet deep, with clay on one side and a drift sand bottom. We found it most exhausting work at this time of day, the heat being most unbearable, and we only secured two (2) buckets of dirty water, the drift sand being unworkable without timber, of which there was none suitable in the vicinity. It would take two (2) days to obtain sufficient water for camels and kegs, although I believe there is a good supply at bottom.

I make the latitude of this place 19deg. 31min. 5sec. South and approximate longitude, 124deg. 19min. East.

Monday, Dec. 21.—Mr. Buchanan's camels made off during the night, and, as they were not brought back until 9 a.m., when it was too hot to attempt travelling, we were obliged to postpone our start for another water spoken of by the natives, until evening. I took the elder of the two (2) natives to point out from here the direction of other waters. He points for two (2) waters, called "Kunnitch" and "Pumana," about South-East, and North 220deg. East for another called "Kullga-ngunn-ngunn" or "Kullgana," but I could not ascertain the probable distances, being, as yet, unable to make myself understood by him. Before noon I saw the elder of the natives walk from camp towards some bushes, and as he appeared to be hunting for lizards among the porcupine, I did not pay much heed to his doings. The younger boy, shortly afterwards, also walked leisurely out of camp in the same direction, and then, noticing that the other was nowhere in sight, I walked after him and found that his mate had decamped. I was, fortunately, just in time, and, getting up to him by pretext, I took possession of him and brought him back to camp. Mr. Buchanan was very anxious to chain him up at once, which we did, securing him by the leg to a camel-saddle. Unless we have with us a native acquainted with the country, who can take us to waters, we are, at this time of year, almost powerless. Water for the camels is now absolutely necessary every two (2) or three (3) days, more especially with the scanty and dry feed to be found in such wretched country.

At 6:20 p.m. we started on a bearing of North 220deg. East, the native being chained and riding with Bejah on his camel. Travelled about five (5) miles, when the boy said the water was close on our left. Accordingly turned down a flat for a few chains and came to two (2) large circular holes about thirty (30) feet in diameter, with water only a few inches down in the sand at the bottom. At one of these a few rushes were growing, and at, and in, the other some more of the tall broad-leaved wattle trees. The holes are but a few paces apart. As it was too dark to do anything until morning, we camped at 11 p.m. The native name of this water is "Kullga-ngunn-ngunn."*

Tuesday, Dec. 22.—Early this morning, when the camels were brought to camp, we found that two (2) of mine were poisoned, the symptoms being similar to those affecting the two (2) that were poisoned near Lake Augusta. Mixing seven (7) packets of Epsom salts for each animal, we drenched them. One of them was apparently too far gone, as, although the salts had effect, he died in great agony at noon. The other is able to rise, but it is effected in the hind quarters, and will be unable to travel for a day or two. This is a most serious loss, as we can ill-afford it. For the last week all the animals have been, necessarily, lightly packed, owing to the heat and the nature of the country.

The water here is situated on the North-West side of a high point of sandridge, on which is growing a small young Leichardt tree. There are several large specimens of this tree to the South-West of the water, a few chains distance, and beyond a low sandridge. The foliage of these trees is the best that I have seen in the desert; probably their roots find their way to the water.

This is a very good water; in one hole it appears quite fresh, whilst in the other only slightly brackish. The supply seems very good, but difficult to get at, owing to the drift sand. The natives appear to have used these wells for very many years. The sand has been removed from time to time, leaving these two large holes thirty (30) feet across at the top, but sloping down to a few feet at the bottom, which is about ten (10) feet from the surface. Having scooped out the bottom, we soon had a good pool of water, and, after giving the camels all they could drink and filling our kegs, it maintained its original level.

The native points North 230deg. East for a water called "Yernich" or "Yerniakka," and North 280deg. East for another which he calls "Nanntho," and which is, he says, not far distant. To the Southward, however, he points in several directions, and repeats the word "Kammara."

The native has been allowed to walk about the camp to-day with a handcuff, to which is attached about three (3) feet of loose chain, fastened round his leg. Just before dark he made a pretext for going out of camp, and when I told him he must not go over a sandridge, he stooped quickly and picking up the end of the chain made a bolt for it. Being half-way up the ridge before I started in pursuit he had a good

* "Disaster Water."

advantage, and seemed to be in no way inconvenienced by the chain. Finding myself about done without gaining upon him, I was just giving up the chase as hopeless when a dead bush, catching the chain, brought him to the ground with considerable force, and I had captured him before he could get another start. Taking him back to camp, he first threw himself on Buchanan's boy, "George," and then clung to Bejah, being evidently of opinion that his last hour had come. However, after chaining him up we surprised him by giving him his supper.

Wednesday, Dec. 23.—Yesterday we kept the camels in an opposite direction to that in which the two were poisoned, but this morning one of Buchanan's is also affected, and we are therefore compelled to stay here to-day.

Moved camp to the Leichardt trees Southward of the well, where we drenched the camel, and did all possible to effect a recovery.

6 p.m.—Buchanan's camel has been in great agony all day, and the salts have had no effect neither has an injection of hot water and soap. My own camel is slowly recovering.

Thursday, Dec. 24.—About a quarter of an inch fell during the night, and early this morning the weather was cool, and it was windy. Mr. Buchanan's camel died at 4 p.m. to-day. When the animal ceased breathing the native said to me "Purrung," meaning, I suppose, that it was dead.

Friday, Dec. 25.—Leaving two (2) pack saddles and one pair of water kegs here, we departed from this unfortunate spot at 7 a.m., with our six (6) remaining camels, twenty (20) gallons of water, and as light equipment as possible. Travelled on a bearing of North 220deg. East for the water pointed out by the native. Crossed innumerable sandridges, some very high, and the usual desolate-looking country until 10.15 a.m., when it became too hot to travel further. We camped on a flat of Leichardt trees, partly destroyed by fire.

Distance travelled seven (7) miles.

Amongst these desert sands the heat is almost unbearable by day at this time of the year.

The native boy, chained by the arm and tied to my riding camel, tried to alter our course very considerably after we had travelled five (5) miles. He now points North-Easterly for the water called "Yerniakka."

Saturday, Dec. 26.—We were delayed this morning by a thunderstorm, but very little rain fell. Getting a start at 8 a.m., now bearing North 230deg. East, we travelled for seven (7) miles, and by accident came to a native bough shade ("Bungur") on a sandridge, at seven (7) miles, with a dry soakage at foot. The native boy then said that place was "Yerniakka," and when I questioned him as to why he pointed elsewhere last evening, he got out of the difficulty by explaining that there were two (2) ("Kutharra") waters of that name.

Continuing on until we had made ten (10) miles, we decided to camp until the cooler part of the afternoon. The native walked the whole distance, and we have kept him without a drink, in the hope that he will take us to water. He tried all manner of devices to get loose, pulling back on his chain and staggering for most of the morning. He now declares he knows the country no further, and, pointing any direction in the South, he cries the one word "Kammarra."

Resuming our march at 4.20 p.m., again bearing North 220deg. East for five (5) miles, we struck my pad of the 1st November, followed during our flight for the Fitzroy River.

The boy, pointing Southerly along the old pad, asked me if there was not water in that direction, I feel sure, now, that he does not know this country, and that we are beyond his boundary. He was famishing for water, so we decided to give him a drink and camp for the night at 7 p.m. Nothing but Leichardt trees for the camels. The boy fairly broke down this evening, crying and repeating the word "Kammarra," and pointing Southerly. This word, in my opinion, means the name of another tribe of natives.

Up to the present we have been unsuccessful in gaining any information of the whereabouts of our friends. The two (2) natives, whom we have had with us, know nothing of them, although they both knew that I had passed through their country last month.

Sunday, Dec. 27.—We are now about twenty-two (22) miles from the last water, "Kullga-ngunn-ngunn," and have barely two (2) gallons of water remaining in our kegs. The distance is not great, but with the heat and the character of the country to be crossed, it will be as much as we can accomplish. Leaving camp at 7.45 a.m., we at first tried to follow my old camel pad to the camping place of 1st November, but, even with Buchanan's native boy "George" tracking, we were forced to abandon the idea and start direct for the water. We managed to keep the camels going until 1 p.m., and at eleven (11) miles were forced to camp until evening.

Finishing the last of the water (about half ($\frac{1}{2}$) a pint apiece), we started again at 5.15 p.m. and followed our out-going tracks until dark, then, by bearings, continuing on in painful monotony until within about four (4) miles of "Kullga-ngunn-ngunn" when my riding camel dropped on his fore-knees on the summit of a sandridge. The poor animal was completely exhausted. Bejah assisting me, we managed to get him on his legs again after half-an-hour's perseverance; but, after going a hundred yards, he again lay down, so I left him there with his saddle and walked myself, leading the native on the chain. We got along, stumbling over porcupine, for two (2) miles further, then I felt that I could not go another yard. The boy, also, continually implored me to stop and sleep ("Lummba"). As there was so much similarity in the natural features of the country, it was probable that we might pass the water in the dark. We therefore hobbled the camels and let them go at 10 p.m., and lay down ourselves amongst the porcupine, thoroughly exhausted and all very parched and much in need of water.

Shortly after we lay down, I noticed a small, dark cloud rising to the Eastward, and hearing thunder, I fancied there might be a chance of rain, but Mr. Buchanan said he had been too often deceived

in the tropics by dry thunderstorms. However, making a hole in the sand, I arranged my waterproof sheet so as to be ready. The cloud approached very quickly, heavy drops falling and passing over us in a few seconds, leaving sufficient water in my sheet for a small drink apiece—the sweetest I ever tasted in my life.

Monday, Dec. 28.—As soon as it became daylight we were astir and after the camels, which, being short-hobbled, were soon tracked up by Bejah and George. They were making direct for the water and had travelled about one (1) mile.

Packing up, we reached the well at two (2) miles. Watering two (2) of the camels, Bejah at once left for the spot where my riding camel was left last night, taking water for him in the kegs; whilst Mr. Buchanan and myself stayed to water the others and cook something to eat.

Owing to the drift sand, we are unable to sink the well more than a few inches below water level, and must content ourselves by emptying the pool as it fills, making three (3) buckets per hour. I feel confident that by spending a day or two in labour over the well we should find a large supply.

Bejah returned at 2 p.m. with the camel. He is very weak and will be unable to travel for a day or two. One of Buchanan's is also very bad and unfit to pack, and the remaining four (4) are unfit to attempt another trip out from here. At this time of year, together with many other disadvantages, the most serious of which is the almost total absence of food for the poor brutes, it is almost impossible to do anything with camels by day. We find we are in a condition too crippled to do more than retreat to the river; in fact it would be madness to attempt anything else.

By dark we had given the six (6) camels as much water as they could drink.

Tuesday, Dec. 29.—We are obliged to stay here to-day to rest the camels, although there is but little for them to eat.

Watered them all again during the evening. The longer we stay here the more danger there is of getting them poisoned.

The latitude by observation, I make 19deg. 32min. 48sec. South; approximate longitude, 124deg. 17min. East.

Wednesday, Dec. 30.—Packed camels and started on return journey to river, Bejah and myself walking and leading our animals over the sandridges, afraid as yet to attempt riding them.

Travelled via "Waddru," camping on pad to "Ngowallarra," making eight (8) miles for day.

Thursday, Dec. 31.—Starting at 6 a.m., we pushed on to "Ngowallarra" Well. The day was exceptionally hot from early morning. We attempted riding, but found our camels would not reach the well unless we dismounted, the sandridges being too steep and trying for the famine-stricken brutes.

Reached the well at 10:30 a.m., where we found sufficient water in a small claypan close by to satisfy the camels. The well has fallen in during our absence and is now filled with sand.

1897.

Friday, Jan. 1.—There being no feed at "Ngowallarra," we were obliged to continue on to-day, although the camels, in their present condition, would have benefited by a day's rest. Now travelling direct for "Tallingurr" rock-hole, we made a start at 6 a.m. My camel is still unfit to be ridden; I found difficulty in getting him along, even by leading him. From sunrise we experienced a suffocating heat, and I found the eight (8) miles walk over the sand as much as I could stand. Camped at 10 a.m., as usual, on poor feed—a species of stunted, broad-leaved wattle bush (*acacia*) and a few Leichardt trees.

Saturday, Jan. 2.—Continuing on same course, Bejah and self riding and walking in turn and still leading the weakest camel, we reached "Tallingurr" at 10 a.m., and found that since we were last here there had been a good thunderstorm. The rock-hole we had cleansed out was full of delicious water, and there was abundance of young green grass on the flat, which the camels eat eagerly.

Making the native boy a few presents, I liberated him and told him he might go if he wished. Bejah is under the impression that he will stay with us and accompany us to the river, but I am doubtful of this, for we are now on the boundary of his country.

Sunday, Jan. 3.—The native boy slept by the fire last night, but this morning he had fled.

Leaving "Tallingurr" at sunrise, we travelled direct for the claypan found in November by myself and Trooper Pilmer, reaching it at twelve (12) miles. We found sufficient water for the camels, and also a little feed.

Monday, Jan. 4.—Now bearing North 10deg. East, we travelled direct to the spot where I left water in a pair of kegs on the 19th November. We reached it at nine (9) miles. Taking the kegs we then travelled four and a-half miles further, reaching "Kammamarra Spring" at noon. Here we got for the camels the first good feed since leaving "Kallaida" Cattle Station last month.

Tuesday, Jan. 5.—Getting away early and now clear of the sandridges and porcupine, we travelled to "Kallaida," a distance of about twenty-two (22) miles.

Wednesday, Jan. 6.—Travelled between river flats and spurs from the St. George Range to avoid flooded ground and numerous billabongs.

Camped at fifteen (15) miles.

Thursday, Jan. 7.—Travelled about twenty (20) miles, camping on the bank of a large creek emptying into the Fitzroy River.

Friday Jan. 8.—Travelled to Christmas Creek, crossing at the same point as on our outward trip. Did twenty (20) miles for day.

Saturday, Jan. 9.—Reached Mt. Campbell ("Gogo" Cattle Station), and were kindly received by Mr. Livingstone, who expressed sympathy for us in our disappointment.

A terrific storm occurred during the night, lasting about an hour; four inches of rain fell.

Travelled fifteen (15) miles for day.

Sunday, Jan. 10.—Owing to the rain and the boggy nature of the country, we were unable to move to-day.

Monday, Jan. 11.—With difficulty, and after bogging the camels in attempting to cross a creek, we managed to reach the Telegraph Station at seven (7) miles.

Sent lengthy report of our trip and adventures to Adelaide.

The rainy season having set in, it will be impossible to move from here for some weeks; but the camels will now improve in condition, as feed will come on fast.

From Jan. 12 to Feb. 20.—Camped at Telegraph Station, Upper Fitzroy. In constant telegraphic communication with Mr. A. T. Magarey. During this time twenty (20) inches of rain fell, the country being in a state of flood. The camels have all become in excellent order, and are fit to encounter the desert.

From Feb. 21 to March 14.—Having telegraphed my readiness and wish to again continue the search for our friends, I was detained by advice from Adelaide to the effect that it was considered probable that our friends had been in the vicinity of the Oakover, and advising me not to start until Mr. Rudall's return, when it was expected that the mystery of their whereabouts would be cleared up.

Monday, March 15.—As Mr. Rudall has returned unsuccessful, I have decided to continue the search.

Tuesday, March 16.—Preparing for further search for our friends.

The camels are all in good condition, with the exception of one animal that has been unwell for some time. He appears to have been slightly poisoned.

SEARCH EXPEDITION.

From Telegraph Station, Upper Fitzroy.

MEMBERS :

Messrs. L. A. Wells and G. A. Keartland
James Trainor.
Bejah Belooch (Afghan).
Sandy (native).
Dick (native).

EQUIPMENT :

Ten camels.
Two pairs of water kegs.

1897.

Wednesday, March 17.—Left the Telegraph Station at noon, accompanied by Mr. Keartland Trainor, Bejah, Said Ameer, and a native boy, "Sandy," and travelled to the Police Station, five (5) miles distant, where we crossed the Fitzroy River. On arrival I found that the police and trackers had left for the "Oscar Range" Station, the scene of a murder, and about six (6) miles distant. A notorious outlaw named "Pigeon," who was at one time a black tracker, had, with his gang, shot and speared a white man named Thomas Jasper, a man I had met in Queensland in 1885. This is the fourth white man this native has murdered. Equipped with firearms, he has been at large about two (2) years.

Thursday, March 18.—The trooper not having returned, I was unable to get a tracker from him, so have arranged for a native boy called "Dick" to accompany us, with the hope that by having the two for company to one another they may stay with us after we leave the river.

A messenger has returned from the scene of the murder, and states that the police have shot four (4) of "Pigeon's" gang, but that "Pigeon" himself escaped, with a Winchester rifle.

Friday, March 19.—Left Police Camp. Passing Blythe's Cattle Station and following a track keeping out from the river, we cut the main road to Derby at nine (9) miles, and followed same for seven (7) miles, camping on the bank of the River.

Saturday, March 20.—Travelled to "Quanbun" Station, distance fifteen (15) miles. The weather is still very hot, and the camels as yet are rather soft after their long spell.

Sunday, March 21.—Waiting arrival of telegraphic messages from Mr. A. T. Magarey, in accordance with his wishes.

During the evening a native and his gin arrived with the expected messages.

Monday, March 22.—Sent the native messenger on return journey to the Telegraph Station with replies to telegrams. Left "Quanbun" at 7 a.m., travelling along the road for 17 miles, and camping at a small bluebush swamp.

Tuesday, March 23.—Travelled for thirteen (13) miles and reached "Noonkanbah" Station. Here I wrote letters to Adcock Bros., Derby, and to Faiz and Tagh Mahomet, of Geraldton, arranging for Said Ameer to return to Geraldton, *via* Derby. I also sent a telegram to Mr. A. T. Magarey, asking him to arrange for payment of wages due to Said Ameer, whom I shall not require, and am, therefore, sending back to Geraldton.

Shortly after our arrival here a native messenger from Upper Liverynga Station brought a letter from Mr. Rose, to the effect that Mr. Gregory, of "Gregory's Station," had brought news from the natives at his station that two (2) white men were seen beyond Mt. Arthur some time ago by desert natives, and these reported that one (1) white man and one (1) camel were then alive, and the other white man and one (1) camel were dead; also that the surviving white man had killed and eaten a native. Sent telegraph message to Adelaide to this effect, and have now decided to proceed at once to Gregory's Station to investigate the report.

Wednesday, March 24.—We experienced some difficulty in crossing the river this morning; the banks were steep and the cutting was damaged by the floods. Having lost two (2) hours in crossing, we then travelled to "Kallaida" hut and saw Mr. Mills, who gave me directions for the best route to Gregory's Station in order to avoid billabongs and flooded ground.

Travelled eight (8) miles from "Noonkanbah."

Thursday, March 25.—Travelled along open plains and river flats for twelve (12) miles, and rested during the middle of the day under an enormous baobab tree, the first I have seen. The trunk

afforded good shade for us all. Continued on during the afternoon and camped, at twenty (20) miles, for the day, at a small stockyard on the bank of a billabong.

Friday, March 26.—Continued on over low sandstone ridges and patches of porcupine, noting many large baobab trees. Passing through a fence at ten (10) miles we entered "Myada" Run, resting, at fifteen (15) miles, at a large lagoon. Resuming our journey during the afternoon, we passed a boundary rider's hut, camping near the head station at twenty-two (22) miles.

Saturday, March 27.—Called at the station for directions, and travelled to Gregory's Station (17 miles).

The native who brought the news regarding the whites seen by desert natives is absent at Derby, but Mr. Gregory informs me he expects him back daily. I questioned other natives here, and they corroborate "Peter's" statement, but say they have only heard it through him. As there are no natives here who know the desert country or could speak to the natives there, Mr. Gregory, strongly advises me to await the return of Peter, who will be able to accompany me.

Sunday, March 28.—At Gregory's Station, getting all possible information from natives here.

Monday, March 29.—The native, "Peter," returned from Derby during the afternoon. He states that he was amongst the first tribe of desert natives beyond Mt. Arthur (during the wet weather), from whence he came, as a child, with his mother, and that the desert natives told him about the white men, but he did not learn where they were last seen. He says the white man living was at a water called "Ngowallarra." This water, no doubt, is the identical one visited by Buchanan and myself in December, during our search, and I am doubtful of the veracity of the report. I believe the natives were referring to myself and Buchanan as the two (2) white men seen by them. Peter seems very hazy regarding that part of the statement which dealt with the killing of a native and the death of a white man.

Tuesday, March 30.—Making a start from Gregory's Station at 8 a.m., and taking with us the native, "Peter," and two (2) friends to accompany him on his return, we travelled up Nerrima Creek for ten (10) miles, camping on a good water-hole. There are many large, baobab trees here; we measured one, and the circumference of the trunk was sixty (60) feet.

Wednesday, March 31.—Generally following along the channel of the creek, which is very crooked. Passed some fair water-holes, camping about three (3) miles from Mt. Arthur, which lies to the South-West of camp.

Travelled twenty (20) miles for day. Mr. Keartland was fortunate enough to bag a brace of turkeys just before camping.

Thursday, April 1.—Continued on up the channel. At five (5) miles we came to some springs, one of which is very fresh, and there are some peculiar-looking trees growing in close proximity to the water and around the springs, where the soil is very black and spongy, and covered with a thick mat of springy grass. The water is slightly warm, and the springs are a little above the level of the surrounding country. I believe these waters are artesian. They are situated about five (5) or six (6) miles to the South-East of Mount Arthur, and I believe the first white man to visit them was Mr. John Collins, of the "Oscar Range" Station, after whom I have named them.

This would be an excellent spot at which to plant the seeds of the date palm, but we have none to spare, as I purpose planting what few I have further afield. Finding we would lose time in waiting to fill our kegs here, I returned one (1) mile to the last fresh water-hole seen as we came along, gave all the camels water, and made another start. Travelling about South from the springs for four (4) miles, we rested during the hottest part of the day. During the afternoon we continued on for nine (9) miles, Peter acting as pilot, arriving at a native well at 5:50 p.m.

Travelled eighteen (18) miles for day. Mt. Arthur bears from here about North 350deg. East. I believe this well would give a good supply if dug out, but at present we are not in need of water.

Friday, April 2.—For the first mile Peter took us on a bearing of North 200deg. East to a small claypan which the natives had been scooping out at some time or other. Watered camels here, then bearing North 146deg. East, we travelled for seven (7) miles, reaching two remarkable hills, one with a crown at the top and the other flat-topped. Peter calls this place "Joal Joal" (Craven Ord Hill). Mt. Tuckfield (A. Forrest) bears 75deg. East.

Now bearing on the same course for a group of flat-topped hills, which we reached at four and a half ($4\frac{1}{2}$) miles from "Joal Joal." Rested here during the heat, the sandridges being still very hot and trying for the camels. This range, which is of desert sandstone, extends East-South-East for about two (2) miles. Continuing our course until 6 p.m., we reached the end of a range of detached sandstone hillocks, feed here poor and scanty for the camels. Travelled six (6) miles for the afternoon, or eighteen and a-half ($18\frac{1}{2}$) miles for the day.

After dark we noticed a fire on a high elevation bearing South-Easterly, probably the result of natives burning the porcupine, a daily occurrence with all these natives of the Great Sandy Desert. It enables them to track game more readily, and reduces the area of shelter for the porcupine wallabies.

Saturday, April 3.—The camels did badly here and tried to make off during the night.

Started at 6:20 a.m., now bearing for fire seen last evening North 130deg. East for one and a-half ($1\frac{1}{2}$) miles through hillocks of sandstone and sandridges, when a smoke rose on a bearing of North 154deg. East. Altering our course for this, we travelled for three and a-half ($3\frac{1}{2}$) miles, when Peter, from a sandridge, said he could see some natives about a mile in advance, coming in our direction.

Keeping the camels out of sight behind the sandridge, we waited until the natives had come within half-a-mile of us. Peter took off his clothes and, with his mates, went to meet them. I told him

to explain that we were friendly, and were looking for our friends. At a signal from Peter, we crossed the sandridge and went to meet them.

Peter, acting as interpreter, questioned them, and found they knew nothing of the death of any white men. I recognise one of these, of which there are four (4) young men and a boy, as the identical native Mr. Buchanan and self made the acquaintance of at "Tallingurr Rock Water," and who afterwards ran away from us at "Waddru Well." Through Peter I explained that I wanted two (2) of them to accompany me Southwards to the next tribe, that I would not molest any of the natives, and that I wanted to find two (2) white men who were lost; that if they would accompany me and get a native from the next tribe to the Southward, I would give them a tomahawk and a knife and feed them. The one who had before been with me, and another, whom he says is "Mabu," which means good or quiet, have agreed to go with us. They state that they are at present camped at "Tallingurr."

Travelling due South, we cut the old camel pad of December and January last, and followed same to "Tallingurr," which we reached at three (3) miles, having travelled eight (8) miles for day. There were a number of older natives at this water, also women and children.

I decided to camp, and allow the camels to take advantage of a little feed around here, endeavouring to get, in the meantime, some more information from these natives. They state that they have not been to "Ngowallarra" since I was last there, and have heard nothing of the report that any other whites had been there. They also affirm that no white men, except my party and my search expedition with Mr. Buchanan, have ever been through their country, but that several parties of whites had passed by the head of "Jurgurra Creek," travelling in the direction of Le Grange Bay. I made these inquiries because of Mr. Isdale's statement to the effect that he had travelled from Mt. Dockrell, in the Kimberley District, to Joanna Spring, and thence to the Oakover. On inquiry on the Fitzroy River, I ascertained that Isdale and party, after leaving Mt. Dockrell, called at Fossil Downs Station, on the Margaret River, and were afterwards camped between the St. George Range and the Fitzroy, eventually turning up on the coast a little below Le Grange Bay. I think Mr. Isdale must have mistaken Joanna Spring for some other water a considerable distance from it. In a letter of his to Mr. John Collins, which I read, and in which Mr. Isdale gives a description of the country, he says that the sandridges are all running North and South. The true bearing of all these sandridges is 20deg. above West and below East between here and Joanna Spring.

Sunday, April 4.—Having watered all the camels, I allowed Peter and his mates to return to their country, sending a note with them to Mr. Gregory. With our new acquaintances, we left the rock-hole for "Tannulla Well." In some of the flats I noted a fine species of soft grass growing amongst the porcupine. We reached the well at 11 a.m., at ten (10) miles, resting the camels until the afternoon; travelled then on to "Dillawuddi Rock-hole," reaching it at four (4) miles. We found it about half-full of water, containing in all about 200 gallons. Camped here, on a little good feed around the water and old native encampments.

Travelled for day fourteen (14) miles.

Monday, April 5.—Making a start at 6:25 a.m., we travelled direct for "Ngowallarra Well," reaching it at seven (7) miles, at 10 a.m. Apparently no one has been here since Mr. Buchanan and I left in January last. I am now convinced that the report circulated by the natives was in reference to our visit. I marked a Leichardt tree four (4) chains West of the well "L.A.W., 8." The latitude I make 19deg. 18min. 26sec. South.

Tuesday, April 6.—The camels did fairly well on the little feed around the water.

Leaving a pair of empty cases here, we started at 6:50 a.m. for "Waddru Well," reaching it, at twelve (12) miles, at noon. Resting for two (2) hours, we allowed the camels to feed on a little soft herbage around the water. I believe permanent water will be found here by deepening this well and timbering it, the drift sand being very troublesome at the bottom. Travelled five (5) miles during the afternoon, and reached "Kulga-ngunn-ngunn." Noticed that the flats were low, and the limestone outcropping, before reaching this spot.

Travelled for day seventeen (17) miles. Found camp and well as we had left them last January.

Marked a tree about eight (8) chains West of well, at camp, "L.A.W., 7." This is one of several specimens of fine Leichardt trees to which I have previously referred. The latitude of previous observation is 19deg. 32min. 48sec. South.

If we can manage to avoid the poison plant, the camels will do well on some soft herbage and grass on a small space around the water.

Wednesday, April 7.—Cleaned out the hole, watered all camels, and filled kegs. Planted date stones in the two (2) large excavations made by the natives. This is undoubtedly a good water, and is apparently of a permanent nature. As far as we can judge, the rainfall has been very light during the wet season whilst we were on the river, and I think not more than two or three inches have fallen here. These natives point on a bearing of North 205deg. East for "Yerniakka," another water over which we were puzzled on our last Search Expedition.

Thursday, April 8.—Starting early over innumerable sandridges and porcupine, we reached the water, a rock-hole, at six (6) miles. The natives state that they do not know the country any further to the South, and are anxious to go West. Fortunately, seeing some smoke about due South, I informed them I was going that way, and asked whether they would come with me, reminding them of the promised tomahawk. They, however, seemed somewhat disinclined to accompany me, and on our starting they walked in the rear, instead of in advance as before.

Bearing North 175deg. East, we travelled for six (6) miles, camping for two (2) hours, then resuming our march, crossing countless ridges of sand and hummocks, our old friends the desert gums

becoming numerous as we advanced, and Leichardt trees appeared in the flats. We travelled seven (7) miles further, and camped at 19 miles for the day.

Latitude 19deg. 49min. 48sec. South.

Friday, April 9.—Continued on same bearing for one and a-half ($1\frac{1}{2}$) miles, when we came to some recently-burnt patches of porcupine, and shortly afterwards to a fresh track of a native going in a North-West direction. The two (2) native boys immediately ran off along the tracks whilst we crossed over a sandridge. Here Sandy saw a gin creeping under a bush. She was very frightened, and Sandy had to pull her out by the leg. I said "Napa" to her, whereupon she pointed South-Easterly for the water. We started with her in this direction, Sandy leading her by the arm until he saw another gin on a sandridge, whom he immediately made off after. The other one then attempted to get away, and I was obliged to run her down with my camel. She then took us to the water which was a mile and a-half on this course. There were two (2) old women in camp, and they set up a wail as we approached, crying "Mabu." This is a soakage well called "Tehundurtu" by the natives. There is very little water in it, so it is of no use to us. Trying to explain to one of the old gins that I wanted water for the camels, she pointed in several directions, one of which was about South-South-West, and called it "Kalunngalong." On my telling her that one of them must come and show us the water, they both discovered that they were footsore. I noticed that one of them wore a peculiar-looking pair of shoes made from bark. We then told the young gin whom we had captured that she must come with us. She protested, crying, and pointing out a canoe-shaped piece of bark, in which there was a dead child. It was bound round with strips of bark and she was evidently carrying it about with her. However, the old lady gave her a piece of her mind, and she then prepared for the journey. This did not take many seconds, as she was not over fastidious about her wardrobe, which consisted of a yam stick. Sandy walking with her, we had just started when we heard a call, and saw the two (2) native boys running towards us, accompanied by another rather tall and well-built native. They had tracked him up and brought him to us for an introduction. He informed me that his name was "Lirmi," and that he was "Mabu," and I told him we wanted water. The old gins said something to him, whereupon he suggested going South-East, but I struck out for "Kalunngalong," believing from the direction that it would be Joanna Spring. Telling the gin she could stay, the native, who was evidently her lord and master, threw her two porcupine wallabies and started off, first bearing North 240deg. East for three (3) miles, when we reached another well adjacent to a flat of cork-bark trees. This well may be a good one if dug out, but it is twelve (12) or fifteen (15) feet deep at present, and but little water can be obtained from it. It was very hot, and the natives did not like walking over the burning sand; they wanted to stop at this well, which is called "Yellingaggidi," but explaining that this was no good for camels, I induced them to go on. Now bearing North 205deg. East for "Kalunngalong," we crossed over high drift sandridges and narrow flats for four (4) miles, resting for two (2) hours during the middle of the day.

In endeavouring to find out what sort of a water we were now going to, the natives from the Northern tribe, whom we could better understand, explained, on inquiry from "Lirmi," that it was a spring water, "Tcharramarra." Two (2) more natives followed us up and were peeping at us over a sandridge, but perceiving that we had seen them, they ran off.

Pushing on during the afternoon, the natives running ahead and standing in any shade they could find to avoid the hot sand, we crossed over wretched country, consisting of high and steep sandridges, desert gums, and porcupine, for the whole distance.

The camels knocked up, and we were compelled to divide the load of one animal amongst the others. We reached a valley, in the lowest part of which are some samphire flats with loose earth and ti-tree. These flats are called "Kalunngalong," on the Southern side of which, at dusk, we came to a water in a large hole, with shelving limestone sides and a pool in the centre, having travelled nine (9) miles since halting, or nineteen (19) miles for the day. The natives call this water "Biggarong," and say a short distance to the Eastward some natives are camped at another water. There is a miniature clay-pan, surrounded by samphire, immediately on the East of this beautiful water. At the other water, which is under a shelf of limestone and is but a small hole which one would pass by without notice, called by the natives "Griing," were two (2) more natives with two (2) women and two (2) children. This water is in a samphire lead, and the soil is black, with a springy grass similar to that seen at other springs to the North of the desert. This water is about half a mile to the Eastward of "Biggarong." Searching about this vicinity, I could find no traces such as dry horse dung or anything else to indicate that whites had ever been here; but about ten (10) chains South-Easterly from "Biggarong" is a large Leichardt tree, the rough bark on the trunk of which showed the outline of a diamond in shape, as though the tree had been blazed and overgrown for many years. There is little doubt in my mind but that this is Joanna Spring. Probably this is the tree where Colonel Warburton camped during his distress in 1873.

I have been careful not to question the natives about dead white men before we got to this water being afraid of scaring them; however will do so to-morrow. Sent all the natives, including the boys from the Northern tribe, to camp at "Griing" for the night, telling them to come back for breakfast.

By observation, I find the latitude here 20deg. 4min. 56sec. South, the approximate longitude being 124deg. 7min. East. The rainfall has been light here; the grass is quite dry, but there is a little green herbage.

Saturday, April 10.—The natives came to camp early this morning, and we noticed that one of them wore a girdle of native string over which hung a piece of tweed, the exact pattern of a pair of trousers my cousin had taken with him when he left me. Without asking questions, I took hold of the tweed, when "Lirmi" said "Purrung white fellow" pointing in a Westerly direction. The other natives repeated this, laughing, in which I joined, so that they should not be suspicious. I asked if there was one white man dead ("Untu white fellow purrung") when they all replied "Kutharra purrung," holding up two fingers. Pointing to the sun they said "Para white fellow purrung," thus informing me that the sun had killed them. They then tried to explain something by passing their hands over their legs, arms,

and cheeks. From what I could understand, they were trying to explain that they have been dead for a long while and nothing but bones remain. I believe we are on the right track for discovering our poor friends, but I am afraid they have perished long ago. Even had they found water, I feel they could not have survived such a terrible summer in the heat of this frightful wilderness. From what I can gather from these natives, they are at or near a water called "Kaddawich."

This morning, in accordance with my agreement, I gave a tomahawk and a knife to the two (2) natives who had accompanied me from the Northern tribes and had fulfilled their mission as they promised. They are anxious to return to their own country and do not seem quite at home amongst these natives, apparently speaking but little of their language.

"Lirmi" and another of this tribe have offered to show us the dead men, and I have promised them a tomahawk and knife for their services.

Mr. Keartland shot a hawk and four (4) pigeons, giving the former to the natives, who appeared greatly taken with the gun. Although they plucked and roasted the hawk, they were evidently afraid to eat it, for one of my boys discovered it after they had gone to camp for the night.

I have arranged with the two natives of this tribe, "Kammarra," to come to camp at daylight for breakfast, as we make our start to-morrow.

I marked a Leichardt tree about eight (8) chains South-East of the water "L.A.W., 9."

Mr. Keartland and myself, in endeavouring to remove the bark and young wood from the tree we supposed had been blazed, found the whole of the old growth decayed with dry rot and a large hollow inside the tree, which afterwards fell down. I felt disappointed, as I had hoped to get some conclusive proof that this tree had been marked many years ago. The natives point East-South-East for another water, which I understand is not far distant, but is only a soakage in sand. This may also have been one of the waters visited by Colonel Warburton.

Sunday, April 11.—As the natives did not put in an appearance this morning, Bejah and I walked over to the camp at Grüning and found that they had all decamped last night. This is most disappointing. I cannot understand why they have done so. It is possible that the shooting last evening scared them, or they were afraid, for some reason, to take us to the spot. The latter, I fancy, was the cause, for they appeared greatly taken with the gun. Last evening before leaving us, four (4) of them, the two who had accompanied us thus far from the North and the two who were to have gone on with us to-day, came to me and putting their hands on my shoulders kept repeating something in a sympathetic tone, which I was at a loss to understand. I almost wish now that I had broken my promise and chained one of these fellows up to make sure of a guide. However, as it is, we must do the best we can for ourselves, for I see little prospect of getting near any others.

I have now determined to give the camels the benefit of another day here, hoping that the natives may come back to us.

Mr. Keartland and Bejah are keeping the larder well supplied with bronzewing and crested pigeons and galahs.

Monday, April 12.—Having watered the camels and filled the kegs three parts full, we left the spring at 7.45 a.m., bearing North 265deg. East. We crossed high country, which extends North-East and South-West, but the sandridges covering all, still keep their bearing of North 290deg. East. Looking back, at five (5) miles, I noticed that the spring valley has high country on all sides, the sandridges rising higher and higher as one leaves the water.

After ten (10) mile travelling, we rested during the hottest part of the day, having previously seen a smoke to the South-West, apparently not far distant.

During the afternoon we travelled seven (7) miles, camping at seventeen (17) miles for the day, on miserable feed for the camels.

Latitude, 20deg. 6min. 56sec. South.

We kept a sharp look-out in the hope of finding some old tracks of natives which might lead us to the dead men.

Tuesday, April 13.—Now bearing North 270deg. East, we travelled for nine (9) miles without finding any tracks, although we had passed over my route of October last, where there was a pad made by fifteen (15) camels, without seeing it. Rain and drift sand have completely hidden it.

Ascending a high sandridge, I saw a smoke bearing North 137deg. East, and altering our course for this, we travelled four (4) miles, camping at midday under some desert gums for two (2) hours; then resuming at 2 a.m., we travelled for five (5) miles further, and came upon the fresh footprints of a native going in our direction. We followed these tracks for a mile, when it began to get late, so I determined to camp, fearing to get too close to the camp of the natives and thus, perhaps, scaring them off. They might also hear the camel bells if we were too near. Whilst we were busy unpacking, I sent Sandy to run the tracks for three or four sandridges further in advance, with instructions not to go too far, but to see if there was a native camp anywhere in our vicinity.

Sandy returned very excited, and said that the camp was close ahead, and that he had seen two (2) blackfellows and, he thought, some women and children sitting under a tree. Thinking they might discover our presence before we could get to them in the morning, I decided to walk over with Bejah and the two (2) natives, Sandy and Dick, and take one of them. We walked about a mile, and Sandy then told me they were in the next flat. We crept up to near the top of the sandridge, and, looking over, I could see two blackfellows, about fifteen (15) chains distant, and the heads of some others, which Sandy said he thought were women. I made the boys strip off their clothes and show themselves on the sandridge and call out. I saw the natives were puzzled, for the skin of the boys wearing clothes was dark and shiny, whilst the wild natives have a lighter-coloured skin. Waiting a few seconds, Bejah and myself

showed ourselves, whereupon several women and children, panic-stricken, fled for the next sandridge, and seven men, armed to the teeth with speers, boomerangs, and waddies, came out into the open and threw out a challenge, calling "Yarra," "Yarra." Bejah suggested going back for Mr. Keartland and Trainor, whilst the two boys said, "Look out boss, him sulky fellow." Telling Bejah that if we ran away now they would come after us with spears, I began an approach, with Bejah about two (2) chains behind me, and the boys bringing up the rear.

Bejah was very excited, calling to me not to get too close to them, as their spears were shipped. As we approached the natives became more excited, yelling furiously, but when I got within a hundred yards they began to retreat backwards, still shaking their spears. Then I called to them in a pacific manner "Mabu," "Mabu," and holding up my hand they halted for a moment, and one of them stood his ground whilst the others still retreated. Going up to him I patted him on the back, and taking hold of his spears made him put them on the ground. The others then approached, but would not put their weapons down until I took hold of them and made them do so. They then began to feel my arms, and catching hold of my rifle made a most horrible sound with their tongues and rattled their lips in astonishment. Bejah was most excited, and kept calling to me not to let them get too close, as I should not be able to shoot them. I had difficulty in keeping him quiet, and was afraid he would shoot me, as his gun was full cock. Three (3) of the natives attempted to get on terms with him, but he kept them off with the muzzle of the gun.

Seeing two (2) plates, a quart-pot, tomahawk, a piece of iron and clothing, I pointed to them and said "purrung whitefellow," to which they assented. Asking them for water, they pointed to a well and invited me to go down it. I told them I had come from "Biggarong," which they all repeated, laughing. I asked them about dead white men, but at that they grew sulky, and pushing me gently, said "Bah! Bah!" This, which I understand, meant "Go," they afterwards did repeatedly. I tried to persuade them to come over to our camp for food ("Myi"), but they declined, and were only anxious for me to go away. They would not talk about our friends, although I am certain they know of their whereabouts. I was at a loss to know what to do. To have taken one of these fellows would have meant, in all probability, a struggle and the use of firearms, which I felt loth to have recourse to without proof that a murder had been committed. Determining to leave them on friendly terms, I made up my mind to return to camp and come over in the morning and to further investigate, as it was then nearly dusk. Not risking leaving in their possession the evidence I saw, I made my boys pick up the various things we recognised as ours. When Dick picked up the tomahawk the natives demurred, but I told them it was ours and belonged to "purrung whitefellow." After we had got a hundred yards from them they began to call out something I could not understand, but on turning round and facing them they ceased, and merely watched us until we got over the sandridge. From the spot where I first saw these natives I picked up a geological sketch map of the Colony, which was presented to me at Cue, and which I had given my cousin for his guidance. It has some pencil memoranda in my writing. This plan was lying near an old wurley which had been used by the natives some months since. There were no tracks of any description about the spot, and the map must have been there for some considerable time. Returning to camp, we surprised Mr. Keartland and Trainor by relating our adventures and showing what we had found. Tied camels up for night and kept watch all night in turn, one white and one black at a time. This is the first time I have considered it necessary to watch, but I felt we were not quite safe with these fellows.

Wednesday, April 14.—Yesterday one of the natives encountered showed me a wound in his arm as though a hole had been made right through it. He said something about "whitefellow," and pointed to the wound. In my opinion he has either shot himself with a stolen revolver or else has been fired at.

Packing the camels at daylight we went over to the well and instituted a thorough search. The well is a poor soakage and would only contain water for a little while after rain. There were no signs of whites having been here; no tree marked or camel dung lying about the flat. We found quantities of hoop-iron from water kegs, a pack bag in the fork of a tree containing some hobble-rings, and an old felt hat, pieces of clothing, etc., which we recognised as the property of my cousin and Mr. Jones, pieces of iron from riding-saddle and a portion of a rib from between the barrels of a gun. This latter is new, and, I think, taken from a new gun I had lent Mr. Jones for the trip.

I marked a Leichardt tree, where we found the pack bag, about fifteen (15) chains North-East of the well, "L.A.W., 10."

Thinking matters over, I have come to the conclusion that there has been foul play. The desertion of the Joanna Spring natives, the meeting with these warlike fellows, and the evidence of the goods in their possession, several of which articles I can swear to as being part of my cousin's outfit, together with the hole through the arm of the native, and the unwillingness of them all to discuss the matter with me, all point in favour of such a supposition.

Having spent half the morning in fruitless search, I decided to travel direct for Joanna Spring, the camels being in need of water. Bearing North 57deg. East* we travelled 11 miles, camping on poor feed as usual.

Thursday, April 15.—Continuing on the same course, we cut our outward pad at five (5) miles, and following the same Easterly for $4\frac{1}{2}$ miles we reached Joanna Spring. I found, placed on a clump of porcupine, right on our camel pad, two (2) boomerangs. These had evidently been placed there by a native after we had left on the 12th inst. There may be a meaning in this.

Friday, April 16.—Yesterday, on arrival, the camels drank a great quantity of the water, which is perfectly fresh, though hard for washing, without reducing the level. There is any quantity of water here.

* On this bearing, at six (6) miles from the well, we passed a quarter of a mile South-East of the dead bodies of our friends. They were discovered six (6) weeks later by myself and Sub-Inspector Ord.

On a sand ridge, to the Eastward of the water, I discovered under two (2) bushes two (2) bundles of native implements ("bull roarers,") each bundle lying on some dry leaves, evidently recently placed there, with a view of keeping them from the ravages of white ants. They were each about eighteen (18) inches long, flat, and rounded off at the ends, with a hole at one end. These are used in connection with some of the mystic ceremonies of the natives, and I have been before informed by the natives that women must not see them. They were curiously marked, and most, if not all, were of different patterns. They ranged in appearance from about new to very old ones. The two separate bundles suggest the idea that they belong to members of two different families. I ascertained that, as in other parts, they are divided into four (4) families, by which division their marriage laws are guided. I took possession of several of the best made implements. Sandy says they are used in connection with the initiation of young men, and that one of these is used for each young man during the ceremony. He says the older "bull roarers" belong to the old men. Apparently these are kept sacred as a record, and for use during these ceremonies. I hope the loss of those I have taken will not mean anything serious to the desert natives.

Leaving Joanna Spring at 6:50 a.m., we followed our pad of the 12th inst. for seventeen (17) miles, camping at our former halting place.

Saturday, April 17.—In the hope of finding some old tracks of natives or traces which would lead us to the spot where our friends have perished, I started with Bejah and Sandy to examine the country in this neighbourhood. We travelled South-South-West for two (2) miles when we saw numbers of flocks of small finches flying to the North-North-East, thence one (1) mile Easterly, where we found some old tracks of a native which I left Sandy to run, Bejah and I travelling in the direction the birds were flying, viz., North-Easterly for five (5) miles without success, although I feel sure there is a water in this direction not far distant. Making a detour we returned to camp in five (5) miles, Sandy returning shortly afterwards, having followed the tracks a mile or two and then losing them as they became too old.

Travelled for this morning thirteen (13) miles.

Left camp during the afternoon with the whole of the party. We are now bearing North 32deg. East, keeping a sharp look-out for water and making the native boys keep watch for old tracks. We passed over rather low flats at five (5) miles and noted some sandstone outcrops. At seven (7) miles Sandy ran some old tracks to a native soakage well twelve (12) feet deep, but not at all promising as regards water, and with not a bite in the vicinity for the camels. Travelled from here due North through wretched country—mallee, porcupine, and desert gums—for three (3) miles, when we found a few Leichardt trees, so I decided to camp, having travelled ten (10) miles, or twenty-three (23) miles for the day.

The only smokes seen since our last adventure with the natives were some which rose to-day, far distant to the North-West.

This evening we saw some cockatoos flying South-South-West. I feel sure we passed a good water about five (5) miles back.

It is my intention to proceed North-Westerly in the direction of smokes seen, in the slight hope of meeting with natives; but I feel that I lost my chance in not securing one of those we met, at any hazard. If unsuccessful to-morrow I will travel direct for Jurgurra Creek and follow it down to the Fitzroy River, going thence to Derby with the view of getting horses with which to arrest some of the natives, and compel them to take us to the spot which I feel confident is within a few miles of the well where we found the articles in possession of the natives. There will be no chance of getting near any, now, without the aid of a horse.

Sunday, April 18.—Now bearing North 330deg. East over most wretched steep and red sandridges, desert gums, and porcupine. Routed at 11 miles and continued on during the afternoon, but at sixteen (16) miles for the day we were compelled to camp on a burnt flat where there were a few bushes. The day was intensely hot and the camels were knocked up. Being very thirsty they attempted to clear out this evening, so we were compelled to tie them up for the night. No animal could endure much of this class of country, almost destitute of food as it is. We found the sandridges very bad for the whole day's travel.

Monday, April 19.—Making a very early start and pursuing the same course, we found travelling a little improved. At seven (7) miles we met with cork-bark and tea-tree in the flats, and finches flying N.N.E. My camel was almost done up here, and I was compelled to take him to the rear of the caravan giving Bejah directions from there.

The tea-tree flats continued on for two (2) miles, when we came on some old wurleys on a sand ridge, and crossing over found by accident a native well, which looked very promising, so I decided to stop and give it a trial. By noon we had a well twelve (12) feet deep of excellent water and apparently a large and permanent supply, with drift sand at the top, and soft sandstone, in which the water is, at bottom. The camels drank about seventy (70) buckets of water, and the supply does not appear affected. There is some soft grass similar to that growing at the Springs near Mount Fenton and Mount Arthur. This is a most fortunate find for us, for through the sudden collapse of the camels I fear we should have been compelled to abandon some of them before reaching Jurgurra Creek had we not found water.

Marked a Leichardt tree ten (10) chains North-West of the well "L.A.W., 11," and blazed another to the South-West.

Tuesday, April 20.—Natives have evidently not visited this spot since last summer. Mr. Keartland and Bejah bagged a number of pigeons this morning. It is most remarkable how quickly birds find out where water is to be had. On our arrival yesterday there was no water nearer than nine (9) feet from the surface, and the hole was almost filled with silt and quite dry. No birds were to be seen about here. To-day we have numbers of pigeons, finches, and a few doves. I believe these birds are like the

crows and can either see or smell the smokes of the natives (who must always be on water), and are thereby guided. From here some high sand hills are conspicuous to the West-North-West about one (1) mile distant, and a bearing to the most Northern and apparently the highest of a group of three stony hills reads North 280deg. magnetic. These hills appear to be about twelve (12) miles distant. The bearing to the Northern portion of a low range reads North 305deg. East mag., thirteen (13) miles distant. These are the best landmarks for finding this water, which I have named "Rescue Well."

It has been too cloudy to observe for latitude here.

Wednesday, April 21.—The camels are much improved and fresher. Got an early start, now bearing North 307deg. East. Travelling is much better. Tea-tree flats occurred between the sand ridges for two miles, but no desert gums. Came upon a few Leichardt trees and coarse acacia scrub. Saw native camping places and dry clay holes at eleven miles, and at thirteen miles reached the low range seen yesterday. This is composed of sandstone hillocks partly capped with ironstone and clothed with porcupine. Altered bearing here to North 342deg. E. Gradually descending we passed some more hillocks on either side, of which one to the Eastward is conspicuous from the North, having three dark bushes or trees on its summit. Travelled nine (9) miles on this latter course, or twenty-two (22) miles for the day. No feed, as usual.

Thursday, April 22.—Travelled on same course this morning. Reached at three (3) miles a high point where are sandstone hillocks capped with ironstone and partly covered with drift sand, and at eight (8) miles lowest valley. Then followed desert gums, also ant-hills, porcupine, coarse scrub of acacia, and patches of grass, all very dry for the time of year. At seven (7) miles we came upon recently-made tracks of natives, and at fifteen (15) miles another high point, a sandridge, where there was an old wurley and soakage well. Then followed undulating desert gum country, a few low sandridges, coarse acacia and cork tree flats. Camped at twenty-two (22) miles and tied camels up at night.

Friday, April 23.—We were off camp at 5 a.m. this morning. Ascended at three (3) miles a low tableland with valleys on either side of us clothed with desert gums and porcupine, and then crossed the left-hand valley and at five (5) miles reached a broken tableland full of water-channels and creeks, and in endeavouring to get through these we lost a lot of time. Broken hills and conspicuous ranges extend for some miles to the East-South-East, and an apparently high tableland stretches away towards the North-West with a valley between it and us. We are now on the watershed of Jurgurra Creek. Numbers of small gum creeks bear North-Westerly. At ten (10) miles rested in a valley for two (2) hours. At thirteen (13) miles reached "Goorda Tower" (W.A. Survey Department), and at fourteen and a half (14½) miles the main channel of the creek, which we followed down camping at twenty (20) miles for the day, the camels getting a drink and some good feed. It was a great relief to get clear of those wretched sandridges.

Saturday, April 24.—Bearing North-North-East we crossed the creek twice when it bore off to the Eastward. Continuing our course we passed "Babrongan Tower," an isolated hill with perpendicular walls and capped with a large square top. It forms a curious and conspicuous feature. At fourteen (14) miles altered course to E.N.E., and at seven (7) miles crossed the creek and camped on open grass plains.

Sunday, April 25.—Following creek over fair pastoral country we saw cattle, the property of Mr. John Collins of Roebuck Downs.

Camped at twenty (20) miles.

Monday, April 26.—Passed some cattle yards at four miles on Roebuck Downs Station which was deserted. At fifteen (15) miles reached the River flats, camping on a billabong.

Tuesday, April 27.—Crossing numbers of billabongs, and also the Fitzroy River, we reached Mount Anderson Station, where we struck the main road to Derby, travelling thence to Liverynga Station.

Travelled eighteen (18) miles for day.

Wednesday April 28.—Travelled to "Yeeda Cattle Station" making twenty-five (25) miles for day. Mr. Keartland had been very busy amongst the birds since reaching the good country.

Thursday, April 29.—Travelled twenty (20) miles, forming camp five (5) miles from Derby at "Mayall's Well." Mosquitoes are here night and day giving us a lively time.

Friday, April 30.—Proceeded to Derby, five (5) miles. Purchased supplies and returned to "Mayall's Well." Travelled ten (10) miles for day.

From May 1 to May 8.—Engaged in Derby forwarding and receiving telegraph messages and arranging to form another search expedition with camels and horses, as without the latter for the purpose of running down the natives and forcing them to show us the spot where our friends have perished we can do nothing.

Eventually arranged for police assistance with black trackers and horses.

We are at present the guests of Mr. Craven Ord, Sub-inspector of Police, and Dr. House, Government Resident. These gentlemen, together with others in Derby, have been most hospitable.

Sunday, May 9.—S.S. "Australind" arrived from Singapore.

Saw Messrs. Keartland and Trainor off to Adelaide, Mr. Keartland taking letters of advice, vouchers, and details of expenditure to date to deliver to Mr. A. T. Magarey.

Monday, May 10.—Sub-Inspector Ord and myself left Derby, and driving by road reached Liverynga Station at fifty (50) miles.

Tuesday, May 11.—Travelled *viâ* Mount Anderson to Gregory's Station, where we were joined by Trooper Nicholson and black trackers; also police from Derby arrived.

Wednesday, May 12.—Bejah and Sandy arrived with the camels from Upper Liverynga where the camels have been spelling.

SEARCH EXPEDITION.

From Gregory's Station, Fitzroy River.

MEMBERS:

L. A. Wells.
Sub-Inspector Ord.
Trooper Nicholson.
Bejah (Afghan).
Sandy (Native).
Ned and Bob (Trackers).

EQUIPMENT:

10 camels and 4 horses.
2 pairs of water kegs.
Provisions for 6 weeks.

Thursday, May 13, 1897.—Making preparation for start. Inquiring into various rumours about two (2) white men who were reported to have been in close proximity to this neighbourhood. Investigation proves these reports to be without foundation.

Friday, May 14.—Started Bejah up Nerrima Creek. I myself accompanied Sub-Inspector Ord, three (3) troopers and four (4) trackers in pursuit of some natives who were wanted for killing stock. Travelled South-West for eight (8) miles, thence S.S.W. for thirteen (13) miles, reaching an open, grassy and samphire flat. Here we found two (2) springs about half a mile apart, the largest where we camped is called by natives "Yallagudyne." We found a very large encampment here but the natives had all left during the last day or two.

Saturday, May 15.—Passed the smaller spring at half-a-mile, then went East for two (2) miles to a remarkable-looking hill; thence E.N.E. for four (4) miles to a high flat-topped hill, thence North-East to a native well, and E.N.E. to a large water-hole in Nerrima Creek, eight (8) miles from the flat-topped hill. We then travelled five (5) miles up the creek and camped.

Sunday, May 16.—Following up the Creek we overtook Bejah with the camels at two (2) miles, then all travelling together we reached Collins Springs at seven (7) miles. Cleaned out spring, watered camels and horses and filled kegs.

Monday, May 17.—Mr. Ord started off two (2) troopers and two (2) trackers to endeavour to arrest natives wanted, who are supposed to be between here and the River. Our party left the Spring at 8 a.m., bearing North 162deg. East. We travelled twenty-three (23) miles camping at a low range previously visited.

Gave the horses six (6) buckets of water from the kegs.

Tuesday, May 18.—Continuing on same course we passed the range of detached sandstone hillocks at six (6) miles, reaching my route of Nov. 4th last at nine (9) miles. This spot was indicated as one where white men and camels were seen. Made an exhaustive search here without finding the reported spot. Finding natives' tracks and seeing smokes Mr. Ord and a tracker endeavoured to overtake natives, but without success.

Gave the horses nine (9) buckets of water from the kegs.

Wednesday, May 19.—Now bearing North 150deg. East we travelled 11 miles, cutting my old pad between "Tallingurr" and "Tanndulla" and following pad for two (2) miles to Tanndulla, thence for four (4) miles to "Dillawuddi," which was dry.

Travelled seventeen 17 miles for day. Gave horses eight (8) buckets of water from the kegs, having but one bucket remaining.

Thursday, May 20.—Making a daylight start we reached "Ngowallarra" at 8 a.m., Nicholson and myself working at the well all the morning. We put one of the two ration cases left here by me on April 6th in the hole, and digging out the drift sand got it down to ten (10) feet from the original surface, forcing porcupine and grass at its back to keep back the drift. It was then making three (3) buckets an hour. Spent the rest of the day until 10 p.m. watering the camels, giving them three (3) buckets apiece

Travelled seven (7) miles for day.

Friday, May 21.—Travelled *via* "Waddru" to "Kullga-ngunn-ngunn," seventeen (17) miles. Dug the well out, and found that the water supply had not decreased. Watered the horses.

Saturday, May 22.—It will be necessary to rest camels and horses here to-day.

Watered camels and filled kegs. One camel is sick this evening, but does not show the same symptoms as those which were poisoned here last December.

Sunday, May 23.—Following my camel pad, we passed "Yerniakka" at six (6) miles, camping at nineteen (19) miles. The sick camel is better, and is feeding this evening. From "Yerniakka" I noted distant smoke to the South-South-East.

Monday, May 24.—Started Bejah with the camels, accompanied by Sandy and the tracker "Ned," for Joanna Spring. Taking Ned's horse, I accompanied Mr. Ord, Nicholson, and "Bob." Bearing North 152deg. East in the direction where smokes were seen yesterday, we travelled over wretched desert sandridges for ten (10) miles, when smoke began to rise in several directions, one, which we made for, immediately on our bearing. Getting close to it, Bob crawled up a sandridge to "look out," and, returning, reported two (2) natives some distance East along the ridge, which we followed down, and, crossing over it, galloped down upon them, but discovered they were two (2) gins, the elder almost a dwarf about thirty (30) years of age, and the other a young gin, and good-looking for a native. They were very frightened at first, but the younger soon recovered, and, in answer to our inquiries, pointed on the course we were taking for a water called "Djillill," thirteen (13) miles from our camp, and took us to it. Here we surprised a wizard or doctor rejoicing in the name of "Yallamerri." He rushed out of a bough wurley with a spear, shaking it at Bob, who covered him with his rifle, and would have fired but for Mr. Ord, who called to him to desist. There were also four (4) small boys at the water. The "wise man" could not understand the horse, and was trembling with fear. Searching the camp, we found several pieces of iron, including a large piece of a part of the bow of a camel riding saddle. It was sharpened at one end, evidently for use as an axe. Questioning the native about this, he said, "Purrung whitefellow," pointing South-Westerly. Noting smokes a few miles W.N.W., we took the wise man, gins and children in that direction. The old fellow pleaded lameness, but being prodded occasionally with a spear, he soon forgot he was lame. He was most anxious to go for a number of smokes where he pointed saying "Jibir," and counting ten (10) on his fingers; but as we did not want ten (10) more natives, we made him go for a single smoke bearing N. 280 deg. East for four (4) miles, where we found a native, whom, with "Yallamerri's" assistance, we enticed to come up to us. He was a bold-looking customer, and walked round the horse in astonishment, making peculiar noises with his tongue and lips. Informing them they must come on with us to Joanna Spring (Biggarong), they both pleaded lameness, afterwards pointing Northwards in the direction of the smokes, saying Biggarong was there. Finding we were to have trouble, Mr. Ord handcuffed them together. Sending the gins and children back to "Djillill," I rode in advance, bearing North 247 deg. East, whilst Mr. Ord and Nicholson drove the natives after me, having to jostle them to make them follow up. After travelling eight (8) miles, they ran up behind me and decided I was going in the right direction.

Reached the Spring at ten (10) miles and found that Bejah's party had arrived.

Travelled for day twenty-seven (27) miles. We chained the natives to the tree I had previously marked here. They had visited this tree since I had marked it, and cut all the lettering off. The younger native, whose name is "Pallarri," says "Wanndanni" had done this, meaning the women. Being a descendant of Adam I suppose we must excuse him. We found the Spring in the same condition as on our last visit, the supply being abundant. Hundreds of birds are now coming here to water.

This being the birthday of Her Majesty the Queen, we drank her health in whiskey.

The natives are fastened to the tree by means of chains padlocked round their necks, and their legs are fastened with handcuffs. They have a break of bushes and some firewood, the nights being cold now. I was very anxious and could not rest, fearing the natives would get away. In the middle of the night I noticed a flicker of light and could see from behind my saddle where I was sleeping their dark eyes by the scanty firelight. For a long while I watched them trying to get the chain over their heads. Twice I called Mr. Ord; the second time he was annoyed and administered a little chastisement to Master "Yallamerri," telling them both to "lummo."

Tuesday, May 25.—We bagged thirteen (13) galahs and six (6) pigeons this morning.

Spilled the camels here to-day, and filled kegs. During the afternoon Mr. Ord and myself, each with a tracker, circled around the Spring for some miles, to ascertain whether any other of the natives had come in, acting as spies; but we could see no signs of them.

We shall have difficulty in inducing these natives to conduct us to the spot where our comrades have perished. They say that two (2) are dead and that the sun killed them, but they profess ignorance regarding the locality, and state that the women and children had found the remains and taken the goods. They are anxious to go North-West to some smokes where they say other natives are. No doubt they are afraid and naturally think we are in quest of the equipment our friends had, and cannot understand our coming after the bodies or bones of dead men. To-morrow, Wednesday, we purpose travelling Westward.

Wednesday, May 26.—Left Joanna Spring at 7:30 a.m., Bejah in advance with the camels, and following my old pad Westward, then the two natives handcuffed together, and Mr. Ord with Nicholson the tracker and myself bringing up the rear. We frequently asked the natives where the dead men were, but they were silent on this subject. We heard the elder native telling the younger something in whispers. They were very eager to go North, and eventually said the dead men were in that direction. I could not stand this for it would not agree with statements made by the natives at other times. At fifteen (15) miles we reached the top of an unusually high sand ridge and halted to again question the natives. They pointed eagerly for Joanna Spring or other places, and also where other natives were, but on my suggesting the whereabouts of the dead white men they said nothing but walked on. It was most exasperating, and Mr. Ord losing patience, cantered after them, and lifting Master "Pallarri" off his legs by a chignon (the style in which they dress the hair in these parts) shook him and brought them both back. "Pallarri" angrily exclaimed "wah" at this treatment, and when I questioned him and spoke severely he laughed at me. Mr. Ord then instructed Nicholson to administer a little moral suasion, whereupon "Pallarri" threw himself on the sand, partly dragging the wizard with him. Master

"Yallameri" trembling and becoming afraid that his time had arrived, turned to me and eagerly snapping his fingers in a Southerly direction exclaimed "Purrung whitefellow." "Pallarri" jumping up, they started off at a Chinaman's trot, exclaiming "Bah! bah!" which I suppose means "Go quickly." Whistling to Bejah we gave him a sign to wheel round, and driving the natives, we followed them for three (3) miles when it was getting late, so we decided to camp for the night. Our last course was North 145deg. East. After the natives were chained up and fed and made comfortable I explained that if they did not take us to the dead men they would get neither food, water, nor fire. They replied "Mabu, mabu." As I feed them and have so far not hurt them they say I am good, but they have a wholesome dread of Nicholson, the chain, and handcuffs, and look with suspicion upon Mr. Ord.

Thursday, May 27.—After we had packed and mounted this morning, the natives, when loosened, again attempted to plead their ignorance, but upon Nicholson dismounting they ran off on the same bearing, exclaiming "Bah! bah!" At two (2) miles on this course they halted on a high sandridge and had a conversation together. Urging them on they then turned South-Westerly for one and-a-half ($1\frac{1}{2}$) miles, when we came to a recently burnt patch of porcupine. Yallameri then held his hand up, and moving his fingers about said "Purrung whitefellow." Urging them forward again they ran along with their "Bah! bah!" Immediately in front of us was a high point of sandridge with a low saddle to the West. Being on my camel this morning I had a better view, and seeing a rope hanging from a small desert gum tree on the ridge, I drew Sub-inspector Ord's attention to it. The natives, now at the foot of the ridge, exclaimed in one awed breath "Wah! wah!" I could then see my cousin's iron-grey beard, and we were at last at the scene of their terrible death, with its horrible surroundings:—

Where Nature is sombre and sear,
Midst Solitude's silent embrace;
In reflection—pray pardon a tear
For the heroes who died in this place.

Dismounting, Mr. Ord and myself went to my cousin, whilst Nicholson and Bejah went where they saw some remnants of the camp equipment and found the body of Mr. G. L. Jones, which was partly covered with drift sand. Where Charles Wells lay, half-clothed and dried like a mummy, we found nothing but a rug, a piece of rope hanging from a tree, and some old straps hanging to some burnt bushes, which held the brass eyelets of a fly that had either been rifled by the natives or burnt by a fire which had been within a few feet of his body. Where Mr. Jones lay and near his head was a note-book with a piece of paper fastened outside it by an elastic band. It was addressed to his father and mother. On suggesting to Sub-Inspector Ord that we should not open the note, he pointed out that in his official capacity it was imperative that he should see the contents. Besides the note might give us something to act upon out here. Amongst a heap of remnants of their equipment we also found a satchel containing a box of medicines, a prayer book, leather pouch, Mr. Jones' compass, and journal, which was kept from the time of their departure from Separation Well until they returned to that water. He stated in his journal that they had gone W.N.W. for five (5) days, after separating from the main party, then travelling a short distance N.E., and that both himself and Charles had felt the heat terribly and were both unwell. They then returned to the well, after an absence of nine (9) days, rested at the water five (5) days, and then started to follow our tracks Northward. Afterwards one of their camels died, which obliged them to walk a great deal and they became very weak and exhausted by the intense heat. When writing he says that two (2) days previously he attempted to follow their camels, which had strayed, but after walking half a mile he felt too weak to go further and returned with difficulty. Charles Wells, he then said was very ill indeed. There was, at that time, but about two (2) quarts of water remaining to them, and he did not think they could last long after that was finished.

The natives have rifled the spot of everything that would be of any service to them. They have by some means cut up and removed the whole of the iron from the riding saddle, and taken all the hoops from both pairs of water-kegs, firearms, etc. Although we made a careful search we could not find any writing left by my cousin, nor his journal, plans, sextant, compass, artificial horizon or star charts, etc., and, with the exception of the map I picked up at the well six (6) miles South-West of this spot, we have not seen a sign of any of these articles amongst the different natives I have met with.

Looking at my cousin as he lay on the sand with features perfect and outstretched open hand, I recalled the time we last parted when I felt his hard, strong grip. I little thought then that this would be our next meeting! I remember we spent a lively evening, our last together, at Separation Well, when both he and Mr. Jones were joking freely, hopeful and full of life. The lines of his favorite poet, Adam Lindsay Gordon, occur to me—

With the pistol clenched in his failing hand,
With the death mists spread o'er his fading eyes,
He saw the sun go down on the sand,
And he slept and never saw it rise.

God grant that whenever, soon or late,
Our course is run and our goal is reached,
We may meet our fate as steady and straight
As he whose bones on yon desert bleached.

This spot is six (6) miles North-Easterly from the well where we encountered natives in April last, with rifled goods in their possession, and my camel pad from that place to Joanna Spring passes within a quarter of a mile to the South-East of the scene.

Sub-inspector Ord has taken charge of all articles found here, and the bodies are sewn up in sheets ready for removal to Derby.

Leaving this melancholy spot we followed my old pad *en route* for Joanna Spring, during the afternoon, travelling seven (7) miles, and camped for the night. The natives are well fed, but still prisoners.

The following is a copy taken from Mr. G. L. Jones Official Journal :—

1896.

"October 11.—Bearings, 290deg. $2\frac{1}{2}$ miles, 295deg. $9\frac{1}{2}$ miles, 293deg. 14 miles, 290deg. " 16 miles.

"Started away from well with Mr. Charles, taking three (3) camels and provisions for "about three (3) weeks, travelling down flats had fairly good travelling, ground rising from "well for two miles when quartzite grit and ferruginous occurs and it outcrops again at eight "(8) miles. Camped on a little wattle-bush. Ants and flies very numerous.

"Oct. 12.—Bearings, 290deg. 6 miles, 295deg. 10 miles, 290deg. 15 miles.

"We managed to load up the water casks successfully and left camp at 5:30. At $2\frac{1}{2}$ miles "saw hill bearing 250deg. about two (2) miles off; the hill is table-topped and has bluff ends. "At three (3) miles country and valley fell away about 100 feet in a quarter of a mile, "quartzitic grits and quartzite being visible; nice tea-tree growing in valley. Saw three (3) "crested pigeons. Travertine occurs twice in valley.

"At sixteen (16) miles came to big salt lake, about one (1) mile broad and ten (10) or "fifteen (15) miles long, running North-Westerly. Camped at South end of lake as there is "fairly good feed for the camels. The lake has an awful appearance—one shining surface of "spotless white.

Bar. 29deg. 00. Lake surface 1250 feet above sea-level."

"Oct. 13.—Leaving lake at daybreak we followed up valley with travertine limestone, blows "and clay-pans. Passed over sandridge into similar country, one big clay-pan with desert gums "growing round it, and from the number of old fires this is a much-frequented spot by the natives.

"Camped under bloodwood tree. Nineteen (19) miles. Numbers of finches about. Going "out in search of water I came across a watercourse, and followed it down through ironstone "then white and grey sandstone. Saw large lake about two (2) miles off. Returned to camp "and found Mr. Charles had seen lake from top of sandridge."

"Oct. 14.—Mr. Charles followed the watercourse down while I led camels direct to lake. "Although we saw hundreds of finches, no sign of water. Came to lake which extends "North-East and South-West. The lake (1,100 feet) is about three-quarters of a mile wide and "extends as far as we could see, bending about like a big river, surface coated with white saline "matter and has the appearance of running strongly at times to North-East, as the surface is "all eddies where stones occur; there is a hole on South-West side while surface comes up level "on the other. Leaving this place we crossed several ridges and camped under tea-tree at 12:30.

"The heat is intense. At 5 p.m. loaded up again to see if we could find any feed for the "camels. After going two (2) miles camped near some desert gums, not a bite of feed, gave "camels a bucket of water each. We are both feeling rather weak. The days are frightfully "hot after 11 a.m. Twenty-one (21) miles.

"Oct. 15.—(Detail accidentally omitted, but can be supplied by Mr. J. W. Jones.)

"Oct. 16.—Bearing 2 miles 42deg., 1 mile 120deg., 8 miles 42deg.

"Were rather late in starting, as camels had gone some distance from camp. After "travelling two (2) miles on 42deg., Mr. Charles turned down a valley to look for water; traver- "tine on surface in places. Crossed a clay-pan and camped among some acacia, the camels "seeking shelter at once from the merciless sun. Started again at 7 p.m., and travelled for "eight (8) miles, when we came to some salt lakes, which camels refused to face, so we camped. "No feed for camel.

"I am feeling very ill, and Mr. Charles is far from well."

"Oct. 17.—Started at 5:30 a.m., after giving camels some water. Spent some time in search "of water, on account of seeing galahs and pigeons about. Travertine limestone occurs in "mounds here, and immense ant-hills up to ten (10) feet high are dotted all over the flats.

"Camped at 10:30, after going ten (10) miles. Started again at 10 p.m., and travelled till "2 a.m. twenty (20) miles."

"Oct. 18.—Started at sunrise, and after six (6) miles stopped for breakfast amongst some "desert gums. After a fresh start, proceeded for three (3) miles, when we camped for day "among some tea-tree. Starting again at 7 p.m., struck lake at two (2) miles, and followed it "down to 12, doing in all $12\frac{1}{2}$ miles, or $21\frac{1}{2}$ for day."

"Oct. 19.—Struck our outgoing pad, and after going six (6) miles, camped in shade for the "day. Started at sundown; we travelled all through the night, and arrived at the native well "just after sunrise."

"Oct. 20.—Cleaned out well and watered camels, and after breakfast we rigged a shade and "had a few hours sleep. Immense numbers of birds appear to water here, arriving just at "sunrise and again about an hour before sunset."

"Oct. 21.—Made a bough shade and got things snug around camp. Found piece of native "boomerang amid old camp fires."

"NOTE.—Heights can be obtained from accompanying book readings. Barometers agree nearly as to "readings. The heights entered in this book are from my small one."

G. L. JONES.

1897.

Friday, May 28.—Travelling eight (8) miles this morning, we returned to Joanna Spring, and camped to allow our horses to recruit.

Saturday, May 29.—Myself, Mr. Ord, and two (2) trackers, with "Yallamerri" as guide, started in a South-Easterly direction to try and find "Bundir Water," of which natives had previously informed me. Yallamerri explains that that water is at present dead—"Bundir purrunng napa." But we could not make him understand that we merely wanted to see the place. After going eight (8) miles, the whole distance having recently been burnt, he told us the waters round about were all dead and not springs—"Waddji tcharramarra"—that the only spring water was far away East-South-East, and it would take three (3) sleeps to reach the spots.

Returning to Joanna Spring we questioned the natives, and they said there was another spring to the Westward, but not in their country. They also knew nothing of a water called "Lambeena," which, in my opinion, must therefore be a considerable distance from here. Travelled sixteen (16) miles per day.

Sunday, May 30.—Started on return journey, travelling twenty (20) miles along our old camel pad. The natives we have taken as far as this for our own safety. They both fairly broke down this morning, when they found the direction we were taking them. And crying "Sunndai" they pretended great lameness. However, forcing them along for fourteen miles, they then forgot their ailments, and "Yallamerri" caught six (6) bandicoots amongst the clumps of porcupine grass.

Monday, May 31.—Presenting the natives with knives, handkerchiefs, some food and water, we liberated them, telling them they could go back again to "Djillill"; they stood on the first sandridge and watched us out of sight. We travelled direct to "Kullga-ngunn-ngunn," finding plenty of water in the well.

Travelled for day eighteen (18) miles.

Tuesday, June 1.—Travelled to "Ngowallarra," seventeen miles. Found some natives had camped here a night during our last visit. Watered the horses at the well.

Wednesday, June 2.—Passed "Dillawuddi" and "Tanndulla," thence North-North-East for four (4) miles, camping at a dry soakage well. Travelled 15 miles.

Thursday, June 3.—Now bearing 347deg. East we travelled direct for "Joal-joal Hill," arriving at same at nineteen (19) miles. I have named this remarkable-looking feature "Craven Ord Hill," after Sub-inspector Ord, who has been a kind friend and companion to me, and through whose valuable assistance I have been enabled to rescue the bodies of our comrades from this cruel desert.

Friday, June 4.—Travelled direct to Collins Springs, eighteen (18) miles for day. This is a beautiful water, and apparently wholesome.

Saturday, June 5.—Followed course of Nerrima Creek for seventeen (17) miles, and camped on good feed South of a large waterhole.

Sunday, June 6.—Followed Nerrima Creek to its junction with the Fitzroy, camping a short distance beyond Gregory's Station.

Travelled eighteen (18) miles.

Monday, June 7.—Travelled to Upper Liverynga Station, fourteen miles. Here we met Mr. McLarty, who gave us a kind reception, and expressed his pleasure at learning that we had at last been successful, and his regrets that the Expedition had had so melancholy an ending.

Tuesday, June 8.—Travelled via Mount Anderson to Liverynga Station. Mr. Hutton, the general manager, was absent from the latter place.

Wednesday, June 9.—Travelled to "Yeeda Cattle Station," spending the night with the manager, Mr. Clifton.

Thursday, June, 10.—Reached Derby and telegraphed result of Expedition to Adelaide and Perth, from which places I received many messages of congratulation and sympathy. I also telegraphed to Colonel Phillips thanking him for the valuable assistance rendered me by the Fitzroy police. Sub-inspector Ord has kindly invited me to be his guest whilst remaining here. He has also undertaken the whole of the arrangements necessary in connection with the attention and shipping of the remains of our comrades to Adelaide.

