

## SOUTH AUSTRALIA.

## EXPLORATIONS BY MR. S. HACK.

*Ordered by the House of Assembly to be printed, October 13th, 1857.*

APPOINTMENT and INSTRUCTIONS to Mr. S. HACK, and REPORTS, &c., by him of an EXPLORING EXPEDITION into the NORTH-WESTERN INTERIOR.

557-57.]

Chief Secretary's Office, Adelaide, 24th April, 1857.

Sir—It having been determined to send out an exploring party to examine the North-western interior of the Province, I am directed by the Chief Secretary to offer you the leadership of the expedition. The remuneration which you will be allowed for this service has been fixed at £300; and, should you succeed in opening up an available country, you will be allowed a further sum not exceeding £300, proportionate to the value the Government may attach to the result of the expedition, and to the service which you may have rendered. In the event of your acceding to these terms, you are requested to notify the same to me at your earliest convenience, and submit for the approval of the Government, an estimate of the strength of the party you propose to take with you, and of the probable cost of the expedition. You will then proceed with all practicable dispatch to make the necessary preparations; for which purpose advances will be made to you from time to time as required. You are requested to place yourself under the instructions of the Honorable the Commissioner of Crown Lands, and to address all your official correspondence to that officer.

I have, &amp;c.,

O. K. RICHARDSON,

Under Secretary.

Stephen Hack, Esq.

*Instructions to Mr. Stephen Hack, the Leader of the Expedition about to start for the Exploration of the North-Western Interior of the Colony of South Australia.*

You will proceed with the party by sea to Port Lincoln, taking with you the horses and such stores as you may consider necessary for the journey from that place to Streaky Bay.

On arrival at Port Lincoln you will, with all practicable dispatch, start overland for Streaky Bay.

The *Yatala* will most probably have delivered the remainder of the stores at Streaky Bay, prior to your arrival there; and, in that case, it will only be necessary to halt the party there for such time as may suffice to recruit the condition of the horses, and to make such preliminary examinations of the line of the intended route as may be deemed expedient.

The provisions and supplies with which you are to be furnished, are calculated as sufficient for the party for a period of six months; the principal portion of which, together with a small iron hut to serve as a store, will be shipped for Streaky Bay in the *Yatala*, about the end of the present week.

The remainder of the Government property placed in your charge, may be briefly enumerated as consisting of—Twelve horses, with their accoutrements; a dray; camp equipage and equipments; surveying implements; and fire-arms and ammunition.

Your first care after arrival at Streaky Bay, presuming the *Yatala* to have reached that place previously, will be to put up the iron hut in the most eligible situation to be found, and to store therein such provisions as you may decide on leaving there in order to constitute a depôt upon which the party may fall back in case of need. On leaving, you will place the hut and its contents in charge of the police officer about to be stationed there.

In taking your departure from Streaky Bay, you should lead the party as nearly due north as the features of the country will allow (preferring, in case of necessity, to deviate to the westward, rather than to take an easterly course), and endeavor to prosecute the search as far as the northern boundary of this Province.

You will cause the Surveyor, who accompanies the expedition, to keep a daily account of the course and distance travelled; and also, to fix the position of any remarkable features which the country may present, with as great a degree of accuracy as the means at his command will allow. He must particularly attend to the taking of meridian altitudes for fixing the latitude, at every convenient opportunity.

In returning, you must be guided by your own information and judgment, as to whether it will be prudent to attempt to reach the settled districts *viâ* the Head of Spencer's Gulf; bearing fully in mind, that in all probability an extensive tract of barren country will be found on the western side of Lake Torrens.

Whichever way you decide on returning, you will leave what you may consider, at the time, to be *surplus* provisions, on reaching the first Police Station on your homeward route, taking the

receipt

receipt of the officer in charge for the same, in order to obtaining credit for the value of such stores in favor of the expedition.

Reports as to the progress and discoveries of the party, should be transmitted to Adelaide whenever opportunity offers.

Every endeavor is to be made to conciliate and win the good-will of such natives as may be encountered during the journey; and you are to urge upon each individual of the party the great desirability of impressing the aborigines favorably towards Europeans, by keeping good faith with them, and by not offending against their natural habits and prejudices. Should any of the aboriginal natives whom you may meet prove intractable, you will take care that every forbearance consistent with the safety of the party, and the attainment of the object of the expedition, is exercised towards them; and, even in the event of their becoming actually hostile, you are requested to see that no bloodshed occurs unless upon urgent necessity. Their physical appearance and sources of sustenance should be noted; and an attempt at ascertaining their numbers in the different localities should also be made.

To the foregoing *general* directions, may be added the following *detailed* instructions, the observance of which you are enjoined to see minutely carried out, viz. :—

A diary to be kept, showing, in as much detail as possible, the business of each day.

A description of the surface of the country passed over is to be recorded; this will include the grasses growing, and a statement of the timber or scrub; and in order to aid description, the tracts of new country may probably be readily compared with known portions of the Colony; the nature of the ground also, whether level, undulating, or hilly; sandy, alluvial, or rocky; should be recorded.

Particular attention should be given to the direction in which all streams and rivers are flowing; the height of their flood waters; and the depth of their beds below the general surface.

The height of any considerable ranges should be ascertained and noted as near as the means of the party will permit. In the absence of instruments the heights should be guessed at.

The situation of all permanent water should be described, so as to enable it to be found by others—remarkable objects in the neighborhood should be noted with this view.

The general direction of all ranges should be carefully ascertained and noted.

Any geological information would be of great use.

The animals and birds seen should be described, and the direction of flight of flocks of the latter should be observed.

Specimens and seeds of any plant deemed to be new, should be secured if possible; so, also, with regard to specimens of natural history.

14th May, 1857.

CHARLES BONNEY,  
Commissioner of Crown Lands and Immigration.

Streaky Bay, June 2, 1857.

Sir—I have the honor to report to you our safe arrival here yesterday morning, being fourteen days after our departure from Port Lincoln.

The horses turn out, all of them, remarkably well, and have not fallen off much in condition on the journey, although the feed was at times very bare in passing through the sheep runs on the line of route. The oats I bought at Port Lincoln lasted the draught horses as far as Yanara, near Cape Westall, and were a great help to them on the road.

On my arrival here I found the *Yatala* had been on the coast for some days, and had got all the stores safely landed and stacked in the iron house, and the hay covered with the tarpaulin. Had we been a day later we should have missed her, as she was ready to sail yesterday afternoon. No damage of any kind appears to have been sustained either by the stores or the hay.

I found the watering-places on the line of route much nearer together and more convenient than we understood to be the case when I was in Adelaide. I enclose a list of the names and estimated distances, &c., which, if useless to you, can at all events do no harm. Mr. Harris will forward a plan, with the road and watering-places marked down, by the first opportunity.

I received your note by the *Yatala*, and am much obliged for the list of the lakes, which may greatly facilitate our progress.

From all the information I can gather, I am convinced of the existence of a fine country in the interior; but I imagine it is situated a considerable distance to the north.

Police Trooper Geharty appears to have considerable knowledge of the language, and much influence over the natives, many of whom have staid some time with him, at Cherriroo, that belonged to a country far to the north and north-west. If he could be allowed to join the party for a month or two he might be of great service.

The buffalo story you mentioned to me is briefly thus. These north-western natives have told Geharty that there is a very large animal in their country neither a horse nor a cow, but larger than either, with a hump on his back "like a chimney."

They speak also of a large amphibious animal as big in the girth as a stout man, and very long, similar in shape to a sleeping lizard, very slow and lazy on land, but which sometimes seizes and kills them at night when they are asleep in the camp; which description, if tolerably correct, would seem to indicate some hitherto unknown species of alligator.

I understand the natives to say that these animals are to be found from ten to fourteen sleeps from Fowler's Bay, to the north-west, north, and north-east, but from the very imperfect means I have of communicating with them I may easily be mistaken in the distance.

I hope to be able to start on our first trip in about a fortnight, and expect to be absent a month or six weeks. I shall take only pack horses, leaving the dray at Streaky Bay; and will not fail to write and give you an account of our proceedings, immediately on my return.

Billy

Billy Grant's boots having turned out bad ones, I should be obliged by your forwarding two pairs by the Police. I have sent my brother the size, who will take all the trouble off your hands. As this man is one of my most useful hands, I am anxious that he should not be hindered in his work by anything of the kind being deficient.

In conclusion, there is one point that I wish for further instructions on, viz.—Fowler's Bay being very near the western boundary of the Province of South Australia, and the information received from the blacks leading me to suppose that the good country, when found, may cross the boundary, I wish to know if it is the wish of the Government for me to follow up any good tract of country I may fall in with, or whether I shall at all events confine myself to the limits of the Colony.

I have the honor to be,

Your obedient humble servant,

STEPHEN HACK.

The Hon. Chas. Bonney, Commissioner of Crown Lands.

Port Lincoln to—	Miles.	
Talla or Little Swamp .....	5	Feed bare; watering-place boggy.
Great Swamp .....	11	Very good water and feed; strong spring; some open country.
The Fountain .....	12	Good sheep country, but eaten down very bare by sheep.
Lake Wongaree .....	10	Price Maurice's; well and troughs; feed middling.
Warrow .....	12	{ Water up a gully on the north side of the Mount; good water, but said to be uncertain in summer. Horses must be watered with buckets. I think, from the rushes and appearance of the ground, an unfailing supply might be obtained by sinking a well.
Mount Greenly .....	10	{ Spring of good water high up on the face of the hill; horses watered in a trough; good feed.
Mount Drummond .....	12	Good water; feed eaten bare by sheep.
Kyana Swamp .....	9	Price Maurice's head station; very bad feed and brackish water.
Lake Hamilton, north end .....	9½	Feed eaten bare by sheep.
Seringa .....	2½	Feed eaten bare by sheep.
Gum Tree Flat .....	9	{ Police Station; good water; very scrubby; a small plain of fair grass about half a-mile from the hut.
Tungata .....	12	Middling feed; horses watered at the troughs.
Bramfield .....	15	{ Strong springs boiling up at the edge of the lake; good feed a little distance back.
Pooridipy, about the middle of Lake Newland .....	9	North end of Lake Newland; feed very bare.
Perrepy .....	7	{ Police-station; open shea-oak country, and middling feed; good water in troughs for the horses.
Cherriroo .....	5	Water in troughs.
Choolanibbe .....	11	{ Excellent feed; plenty of good water; horses had to be watered in a tarpaulin.
Koolcunna .....	14	Bare of feed round the station.
Calca .....	4½	Good feed, but only enough water for our own use.
Warcoola .....	12	Very good feed; watering place similar to Koolcunna; good water.
Yanara .....	10	{ Middling feed; good water by digging under a high white hill of drift sand.
Yanippe .....	5	{ Well in the limestone; good supply of water; good, but requires enlarging.
Alganibbe .....	5	{ Eyre's Depôt; feed middling; two wells here—one, good water, the other, not drinkable by Christians, unless in extremity.
Cooyana .....	3	
Streaky Bay Beach .....		
Total .....	214½	

Crown Lands Office, Adelaide, 16th June, 1857.

Sir—Your report, dated 2nd instant, of the safe arrival at Streaky Bay of the exploring party under your command, was duly received by the Commissioner per the *Yatala*.

The only points in that communication on which it is necessary to notify anything to you in reply, are—

First—That an authority was immediately issued to Mr. J. B. Hack, to comply with the written request which you had made to him, as to the procurement of boots for the native of your party, Billy Grant; and—

Second—With reference to your course of action, should you find a good tract of country leading out from the present western boundary of this Province. On this latter point, I am to say that, although the primary object of the expedition under your command is to explore the country lying *within* the South Australian territory, yet, in the event of the country outside the boundary line presenting a more favourable line of route, or should the general character of the country outside prove to be very much superior to that within this Province, you would, in either case, be fully justified in crossing the boundary line.

It is, however, very desirable that the expedition should not return without the fullest possible information as to the nature of the north-western portion of this Colony.

I have, &c.,

EDWD. W. HITCHIN,

Secretary.

Mr. Stephen Hack.

Parla, June 30, 1857.

Sir—Having the opportunity of sending to the depôt by a native, I avail myself of it to acquaint you with our proceedings so far, although I have not a great amount of information to communicate

communicate. My present camp is about thirty miles a little north of east from our depôt, at some large holes of water in a granite rock, on the top of a low range commanding an extensive view as far north as the Gawler Range, and also to Mount Cooper and Mount Hall. From the appearance of the country towards the range, I determined on leaving ten horses here, in charge of Mr. Miller, an overseer of Mr. Price Maurice's, who has joined our party with two horses as a volunteer, and going a-head myself, accompanied by Mr. Harris and Billy Grant, with one packhorse, as I was unwilling to run the chance of all the horses going without water for an uncertain time. We reached the range a little before sundown the second day, in about forty miles from Parla, having kept a generally north-easterly course for a promising gap or break in the range, visible from Parla. On nearing it, after emerging from about twelve miles of dense scrub, we came on a chain of salt lakes, extending along the base of the range, and distant from it from four to six miles, from within about nine miles west of Mount Sturt to the north-west as far as we have seen. There are but few crossing-places, and it delayed us much to find one. The horses having been two days without water, I made straight for a promising-looking gully, under a prominent point of the range, which, being composed of bare red granite, I named Mount Granite, where we were fortunate enough to find a strong permanent spring of excellent water, a short distance in the range. From thence, after climbing the hill, and taking bearings, I steered for another prominent hill, about  $5^{\circ}$  east of north—all barren scrub between them. On reaching it, after a little search, we found plenty of water in deep holes in the granite rock; one of which was, I think, permanent, from the fact of a thriving water-plant growing in it, with flat oval leaves floating on the surface. Mr. Harris obtained bearings from this hill also; which, standing in the middle of a remarkable semicircular sweep of the hills, received the name of Mount Centre. From the summit we obtained an extensive view, and saw the salt lakes I have mentioned, extending to the north-west as far as the eye could reach, with very few breaks or crossing-places. To the north there is a mass of high ranges, one behind the other, till they fade away in the distance. After leaving this camp about half a-mile, we crossed, to our great surprise, the tracks of Major Warburton and party, about a day or two old. Their horses appeared to be travelling briskly, and not dragging their feet; they had several dogs with them—so that I hope they have got through well. I followed their tracks for about six miles, bearing for Parla, or about south-west, where they suddenly turned off west, and as I had nearly fifty miles to make, without water as far as I knew, I did not follow them farther, as they appeared to be going a course in which the lakes would throw them a long way to the north. I reached Parla the second day, from Mount Centre, about half-past three, p.m. In going out, I passed through a considerable extent of fine grassy country, running into bold bald downs, about fourteen or fifteen miles north-east from Parla, to which I gave the name of Hope Downs. I could see from the top of the hill that the same country extended some distance to the east and south-east and to Parla, also north-west for eight or nine miles. There was a large grassy plain to the north-east, for which I directed my course, and reached after passing through about five miles of dense mallee. Camped here, without water, seven or eight miles from Hope Downs. We saw the same open country extend to the south of east, and still further to the north-west. In returning, I steered a straight course for Parla from Mount Centre; and, after passing about twenty miles of scrub after leaving the range, we struck the same open country, which continued all the way to Parla; it is very much subdivided and intersected with belts and small patches of mallee scrub, but none of them of any great width that we passed through, and seemed to me to run along the edge of the scrub a long way to the north-west. We stumbled on some good permanent limestone wells about six or seven miles from Parla, and about five or six from Hope Down; and, from the birds we saw on our route, viz.—crows, spur-winged plovers, red-breasted cockatoo, large parrots, a large kind of swallow, brush turkey, and black magpies, also the tracks of native dog, I feel convinced there are many other watering-places. The grass, through the whole of this tract of country, was very good and abundant, and I and Mr. Harris are both of opinion that we have seen from 170 to 200 square miles of it. I start in a day or two for the range, after allowing the horses we took with us to recover a little from their journey; after which I shall, I suppose, have no opportunity of communicating with you till my return. I have seven packhorses, with 500lbs. of flour, and other stores amounting to nearly 1,000lbs., and twenty-five sheep, which will last me ten or twelve weeks. The horses carry their heavy loads well, and none of them has had a hair grazed as yet. The men all behave remarkably well, and give me not the slightest trouble. Mount Centre is about ninety miles south of the line of the north-west lakes you mentioned to me, and which I hope to see in a week or two, if they are to be found.

I have the honor to be,

Your obedient servant,

STEPHEN HACK.

Hon. Charles Bonney.

Kondoolca, July 29, 1857.

Sir—I have the honor to report to you the safety and well-being, so far, of the party under my charge. I wrote to you last from Parla, where I was detained some days by Billy Grant's illness; I availed myself of the opportunity to replenish our packs, so that the delay might not shorten the time we should remain out. I finally started on the 6th July, with rather more than 1,200lbs. packed on seven horses; Billy Grant apparently recovering from his illness; camped the first night at Ulippe, eight miles from Parla; rock-water not sufficient for all the horses; next day to Yarwandutta, a large rock-water twenty-six miles from Ulippe. We crossed Hope Downs, and on this line found the good grass country seven or eight miles in width. This stage appeared to make Grant worse than ever; and, as he was so valuable a hand, I determined to give him two or three days' rest, that I might judge if he was able to continue with the party, and go myself

myself with Mr. Harris and examine the ranges near Mount Sturt. As you will see by the sketch enclosed, there are several waters near Yarwandutta, of which, I have seen Tcharkledoo, Minnepah, Warwar, Podinna, Chilpuddie, and Moolje; these have all some extent of grazing round them, making them valuable as halting places for travelling stock, though not sufficient for stations. The first is said by the natives to be permanent. Pelddubba, or Gemini Rocks, has no grass round it.

On the 9th, left Yarwandutta and went to the range, and returned on the 13th, having been as far north as Mount Centre. I saw some third-rate country in this trip; and, if water was obtained by sinking—of which there is every probability—some of it will, no doubt be taken out. In two or three places, the lower ranges were thickly sprinkled with sheoak, and well grassed. How far these patches extend I cannot say; but, as far as I saw, they continued no great distance. I hear of a permanent water (Tchingurrah) near Mount Sturt, with a moderate extent of grazing near it, which last I have seen a part of; the water I have not yet seen, but hope to on my return.

When we returned to camp, I found it quite out of the question to attempt taking Billy farther, and accordingly sent Connor with him to the depôt at Coeeyana, with a pack-horse to bring out the same amount of stores that would be consumed by the necessary delay. On Connor's return, I found that Grant had arrived safe; but, owing to his great weakness, it was with great difficulty he reached Coeeyana. I have engaged a man from P. Maurice's party, at Coeeyana, in Grant's place for this trip, and shall pay him off again immediately on our return to the depôt. I received 100lbs. flour and some other stores by Connor, and left Yarwandutta on the 21st, and camped at Podinna, about twelve miles; good feed and rock water. I should have said that, during my trip to the range, I succeeded in getting two natives, Membulta and Yandulta, after several unsuccessful attempts to get within speaking distance; we saw many smokes, but the blacks were all as wild as kangaroos, and it was with some difficulty I got them; they have been with me since as guides to water; and, as I have got another who knows more of the country north, I have paid these two, and send them with this to the depôt. On the 22nd, camped at Ponara, the water under Mount Granite; found the native well hardly sufficient for so many horses, though I still think plenty might be obtained by blasting, the natives saying that it is permanent. On the 23rd, we left Ponara, and kept outside the range past Mount Centre, and passed through worthless scrub for about twenty miles, until we came on to a well-grassed plain, with scattered salt-bush; about six miles from which we camped, after dark, at Warroona, a permanent water in a creek coming from the eastward, with a bed of loose gravel, and water anywhere by scraping about a foot deep. The natives say that it remains thus through the driest seasons. The country, in every direction as far as I could see from the highest hills, is good grass and salt-bush, quite free from scrub. The line of scrub follows the range at about three or four miles distance. To the north from Warroona, the country is similar to some parts of the north—wide grassy valleys, with scattered salt-bush—some of the lower ranges grass, and some porcupine. The salt lakes that commenced at Mount Sturt still continue, but trend further away from the range. The country appears to be changing its character; there is a great deal of forest oak and salt-bush, which we have not seen before; the soil, instead of being loose and sandy is a firm red loam, with the grass, generally, very close together. The red granite seems to be giving way to what I should call a calcareous conglomerate; but, as I am no geologist, I may very likely not give its right description. In the bed of the Warroona Creek are large masses of conglomerate, and the rock seems changing to a sandstone. From Mount Friday, west, the country is level; salt lakes about twelve miles distant, and the good country extending to them.

To the north-east was a large range, running east and west, distant about twenty-five miles, with a line of salt lakes under it, similar to those to the west. It seems to be a feature of this country that the drainage of the hills is received by these salt lakes. A good many sheoaks growing in the vicinity of Warroona. This country proves that an explorer should never despair of finding country; as, from the top of Mount Centre, only ten or twelve miles distant, I felt certain that no good country was in sight, at all events. There are more kangaroo and emu than I have seen yet, and the wombat are very numerous and unusually large. On the 25th, started from Warroona, and camped at Toondulya, eighteen miles. The worst country we passed was available—nearly all of it good—right and left, as far as we could see. Some patches of forest oak of a large growth, with an undergrowth of good salt-bush. At the back of Mount Pyramid I passed some large wombat-holes, running under limestone, and shortly afterwards a small creek, with a limestone bed. The granite is more of a whitish color than we have yet seen. Toondulya is a rocky creek, with water-rush, native rhubarb, and sarsaparilla growing very strong and abundant, and several fine deep springs, which can scarcely be baled dry—much quartz and white flint on the ranges. Grass country round Toondulya in all directions. 26th.—To-day being Sunday, and having a good camp for feed and water, I remained stationary. In the afternoon, I rode to the top of a hill, about five miles distant, which promised an extensive view, and saw the open grass country extending for over twenty miles north-west. On the 27th, moved on to Kondoolea, eight miles. With the exception of a belt of forest oak scrub, all the country good. This is about the best we have yet seen; a fine permanent spring on a grassy flat.

28th.—Hearing from the blacks that there was only one more permanent water on this course, I left the party in camp at Kondoolea, and rode about ten miles to Yarlbinda, a similar spring to this—all the country good, and for at least ten miles farther to the north-west, where there was a low detached range (the last of the Gawler Ranges) to the north-west. I ascended the end hill of the Yarlbinda Range, and could see that there was no hill of any size, to the north and north-west for at least fifty miles; as far as the detached range the country continued good, similar to that we have ridden over. Some large smokes visible about fifteen miles north; but my native guide, Toolgulta, says there is nowhere water enough for horses for a very long distance. Very far in the north-west is a country called Narralla, good grass and water, but on this course horses cannot be taken there. He tells me I can get north on a good line of country

and

and water, by heading a little to the east; in about ten stages he states that there is a large salt lake, which, from his description, must almost amount to an inland sea, with great numbers of swans and ducks and large tribes of blacks. I shall take this direction from here as I may probably find an opening to the north-west by so doing. I find the blacks here familiar with all the names of the lakes you sent me except the two first, which none of them know anything of, they are somewhere to the north-east.

I hear of several permanent waters and good country to the southward, which I shall endeavour to visit on my way back. I think it quite possible there may be country to the north and north-west, but I think that I shall do more good by following out and certifying the information I have got from Toolgulta rather than spend time and stores in continuing my present course. The horses are all in first-rate condition, and in spite of the weight of the packs, not one has been in the slightest degree galled. I start from this with nearly 500lbs. flour, 160lbs. sugar, 20lbs. tea, 60lbs. rice, and 36 sheep, with a proportionate quantity of smaller stores which will enable me to remain out as long as the season will permit. This is my last sheet of paper, and I am writing cramped in a little tent in an impossible position, which must be my excuse for any errors or inadvertencies.

I have the honor to be,

Your obedient humble servant,

STEPHEN HACK.

The Hon. Charles Bonney.

Port Augusta, September 18, 1857.

Sir—I have the honor to report the safe arrival here of the exploring party under my charge. I am obliged to make a short stay for the purpose of getting the horses shod, as they are so footsore as to travel with difficulty. Mr. Harris has returned to Coeeyana with one man and three horses, to dispose of the surplus stores left there in dépôt, and to bring away the two men left in charge of them. The last permanent water I found was from sixty-five to seventy miles west of Baxter's Range, the good country continuing the whole way. The horses being lame from the want of shoes, prevented my searching the country for water so much as I wished; it had every appearance of containing water, and from the traces of natives, and the number of crows, pigeons, and wild dogs, I have no doubt but that water may be found there. I found water reed in two or three creeks, but no surface water that had any appearance of being permanent.

The horses are all in good condition, and nothing of any consequence has been lost or injured beyond the ordinary wear and tear during the time we have been out. I shall make the best of my way to Adelaide from this, and expect to be there early in the week after next.

I have the honor to be, Sir,

Your obedient humble servant,

STEPHEN HACK.

The Hon. Marshall MacDermott, Commissioner of Crown Lands.

Mount Remarkable, September 19, 1857.

Sir—The last time I had the honor of reporting the movements of the exploring party under my charge was dated from Kondoolca, 30th of July last.

From that place I moved on to a rock water called Kahrachildy, and from there to Yarna, a creek with surface water, in winter at all events, and with plenty of water-reed. From Yarna, twenty miles, to Warrea, the whole of the country passed through may be classed, I think, as fair second rate salt bush country, more or less mixed with grass; in some parts encumbered with large bushes, and patches of forest oak. The last twelve or fourteen miles before reaching Warrea was scrub, but not dense enough to impede a traveller.

We left Warrea on the 3rd August, and passing through about fifteen miles of useless scrub, came to Moonaree a good permanent spring of considerable size, with a piece of good grass country, of from twenty to twenty-five miles in extent, adjoining it. Thence to Mendea, a rock water, about fifteen miles south-east from Monaree, all scrub. From Mendea, about ten miles, to Murnea, a rock water, where the country showed some signs of improvement. We here got a fair view of the Great Salt Lake, of which we had heard so much, and found Major Warburton's tracks, who had ridden to the top of a hill to get a better view of it. I had wished to have named it after the Governor, if it turned out to be as important a feature in the country as was represented; but as I was not the first to find it, it will, in all probability, be named already. We got some very good salt for use from the lake; there is any quantity of it. To the north, from the highest hill I could find, nothing could be seen but a perfect horizon of salt. From the hill we ascended, I could see a high range  $60^\circ$  east of south; to the north of this no high land could be seen.

From Murnea I went to Cowieridda, a creek of similar value to Yarna; thence to Yarinda, a rock water; and from there to Kundery, a very large permanent spring, about twenty-five miles south from Murnea. The whole of this part of the country is first rate, and may be said to be chiefly salt bush, but very much mixed with good grass; it is bounded the whole distance to the east by the Great Lake, and extends west to the country seen from Warroona. The natives tell me that there are large herds of wild cattle to the north of the lake, but of the truth of the report I cannot answer. If true, there is, without doubt, good country.

From Kundery I went to Koleymirrika, one of the names given to Mr. Bonney by Hulkes and Oakden as the names of lakes to the north-west; it is a spring in a very steep rocky creek, in a high range, of small value and very bad to get at with horses. I found an old native named Pinegulta,

Pinegulta, who was with me for a few days, perfectly familiar with the names of all the others, but he had never been to them himself—"big one swan and duck sit down," and "big one water." He pointed north-east from Kundery for all but Koleymirrika, which lays about eight miles west of Kundery. The Koleymirrika Valley is about equally divided between open forest oak scrub mixed with salt-bush on one side, and clear grassy plains on the other. From Koleymirrika to Yardea, a good creek, full of springs, the most of the water on the top of the range, and easy for sheep or cattle to get at. First-rate country in every direction round this water; quite free from scrub, except in the direction of Pondanna, nearly south, where there is a considerable piece of scrub.

Pondanna is a small spring, said by the natives to be permanent; the water, while I was camped there, rose as fast as our horses could drink it. The Mount Centre scrubs come near it from the south; in other directions the country is open and good, particularly to the eastward.

Leaving Pondanna, we passed through about three miles of good country and then entered the scrub, which continued nearly to Kodondo, a good permanent creek of water, with enough country for a flock of about 1,500 sheep. Two miles farther is Puttamaring, another large permanent water, with a considerable extent of good country, within feeding distance, towards Eureka Bluff and the Conical Hill. There is plenty of good useful pine in this neighborhood, but no thatch have I seen here or anywhere else in the Gawler Range. We then went, about eight miles, to Yandinga, large springs in the outside range to the south, near the "Scrubby Peak;" a considerable extent of good feeding country, part of it very fit for cultivation.

From this, the open grassy plains run nearly up to Mount Sturt, which stands ten miles out from the main range and is only connected with it by low rises. Here my attention was drawn to a large flock of the red-breasted cockatoo, which I fancied had only just left the water. On going to the spot I found a lot of good springs in a creek with abundance of water-reed, which, from this circumstance, I named Cockatoo Springs; fine open grassy plains and wide grassy valleys all round this water. The next day being Sunday, 16th August, I remained at Cockatoo Springs.

As the horses were fresh, and I was tired of doing nothing, I took a ride round to see what the country looked like ahead. I stumbled on two large springs, the largest we have seen yet, one of them running a strong stream, and about five miles from camp. I have since found out their native names are Polturkana and Paney. I got to the top of a range commanding an extensive view and could see good country all round; where I rode through it, it was heavily grassed, and the useless portion of it, such as porcupine ranges and scrub, was, I think, much less than the usual average.

After leaving Paney we travelled through first rate country, sometimes nearly all grass, and sometimes nearly all salt-bush, and turned to the north up a wide green valley of good soil, and mostly well grassed, and found a small running creek named Narrenie, which the natives say is permanent. On the other side of the valley, at the top of a wide branch of it, is another permanent water called Muddera, which was pointed out to me by a native, but which I have not seen myself.

I rode with Mr. Harris to ascertain how far the line of scrub encroached on this part of the country, as some ranges prevented my having a clear view. From Prospect Valley (as I named the wide valley just mentioned) for some miles, all the fall to the southward is useless scrub; but there are two or three fine valleys of good soil, well grassed running towards the Great Lake. After I left Narrenie, I left open grass country to the north of my track, extending to the Eureka Bluff, and passing over a low easy saddle with many pines growing on it, I found two creeks of water, about half a mile apart, both running at present, and said to be permanent by a native named Wolgulta that I managed to get hold of, and who staid a few days with us. The smallest water is named Winnabinnie and the largest Kolay; fine clear open grass country in every direction to a considerable distance; Kolay would make a fine place for a head station. Wolgulta showed me to a water he says is permanent, named Tarkumbledoo, near Mount Double; and, a mile farther, a spring called Nukay, high up on the side of a range; and, five miles east from this, a very large spring called Tandaie; but which unfortunately is in a patch of very inferior country to what we have been travelling through. He wanted to take me to another still bigger, some distance farther to the south, called Echanulbo, but as I knew of my own knowledge that there was no country worth having in the direction he pointed, I would not run the chance of laming the horses by taking them among the rocks. There is a winding irregular-shaped plain between Tarkumbledoo and Mount Double, well grassed and very good land, part of it running through to the outside of the ranges and which is altogether more than thirty square miles in extent. We left Nukay on the 24th and crossed over the range into the Kolay Valley, steering north. In about two miles I saw signs of water in a creek, and going to examine it found a small running stream, plenty of water-reed but no holes of any size; probably the surface water may dry up in hot weather—native name Pondamunda. In about seven miles, encamped at Pindarriby, a considerable watering place, said by Wolgulta to be permanent; tolerably good country in the neighborhood, though not equal to Kolay; I could find but very few bunches of water-reed in this creek. Wolgulta pointed out another water, about six miles 30° west of north from Pindarriby, named Ponculto, which he says is a large spring, but which I have not seen myself.

After leaving Pindarriby, I steered north, into a section of the country I had not examined, passed Koleymirrika, and camped in a beautiful valley of considerable extent; good soil and grass, with sufficient rock water for the horses. Next day I sent the party on to camp at Kundery, and rode with Mr. Harris to the top of a very commanding hill, which is called, on the map, "The Hill of the Plain." From this point, we had a most extensive view of a very large tract of wide open country, chiefly grass, as far as I could judge, sprinkled and intersected with bushes, with many clear plains of different sizes, no where much encumbered with bush, and of about 400 square miles in extent, as we estimated it. South-westerly, it runs down to Yardea, joining the good country seen there, and north-easterly to Cowieridda; westerly, to Kundery and the Great Lake.

Lake. After descending the hill, on my way to Kundery, I found a small native well, or spring of good water, in a teatree creek. The natives had been walking about in considerable numbers over our tracks at our old camp at Kundery, but none came in sight.

On leaving Kundery, I steered south, wishing to find the end of the Great Lake, and camped at Mount Not—a bold round hill, very difficult of ascent, about twelve miles south of Kundery; useful country the whole distance, much of it very good. I camped here without water, and sent one of our natives to examine one or two very likely-looking gullies in a hill, about a mile off, on the other side of the flat. He soon returned, having found a creek full of very large springs, quite a first-class water; not being able to get the native name of it, I called it Springhill. Tandaie is a short distance, some six or seven miles south-easterly. The country belonging to these two waters would make a first-rate cattle run. It is, in some directions, rather more patchy with forest oak than most of what we have been through lately.

I took a day here to examine the country to the south, to ascertain how far the scrub encroached on it, and also to find a suitable hill to fix our position, and sent one of the men a-head to look for water. He found a creek with springs about five miles eastward, to which I moved next day; and the same afternoon went out myself to look for more water. Found a good-sized rock well, with much water-reed round it, about four miles from camp. Called it Rocky Spring.

Left Harry's Springs on the 31st, and, passing to the north of the Rocky Springs, passed through some low porcupine hills with small salt-bush valleys, and came on to an open country immediately south of the lake; ground very rotten in the rises, but sound in the low places, where there were samphire flats—seemingly the commencement of the lake. I made straight across for a likely-looking hill, and, on reaching it, tied the packhorses up, and sent the men in different directions to look for water. On my way up the hill, which we named Mount Ive, I found a small spring, scarcely sufficient for our horses unless it had come in very fast. From the top I was much pleased to observe a general and marked change in the country for the better. The country generally, is what I call first-rate salt-bush country, with patches, of various extent, pretty well grassed; no doubt, with stocking, the grass will increase. Little or no scrub to be seen, except in the far distance, to the south. On coming down from the hill, I found that Lynch had returned, and found plenty of water two or three miles to the north, where we camped. The creek was much choked with rocks, and the hole of water not large, but the spring was so strong that our fourteen thirsty horses could make no impression on it. The man who went to the south-east, found no water, but saw large flights of cockatoos, and many small birds.

South of Mount Ive is a remarkable isolated range which, at Mr. Harris's request, I have named "Freeling Range," it was ten or twelve miles off, and, as far as I could make out with the glass, the good country runs up to, round, and beyond it; saw natives smokes there, and Wolgulta pointed in that direction from Tandaie, saying there was a very large spring there he called Parculboo. Mr. Harris will go to Freeling Range on his return to Coeeyana, and endeavor to find the water. On leaving Lynch's Creek, I steered north-east, and in about three miles crossed Major Warburton's tracks going towards the Great Lake; in about eight miles of first-rate country, gradually becoming more grassy, I saw a likely looking hill and turned up north towards it, found a good spring on the north side of it, and a creek full of springs about a mile or so to the westward. The lake about five or six miles to the north; sent down and got a supply of excellent salt; very good country in every direction, grass to the very edge of the salt. Leaving "Mt. Partridge," as I called it from getting there on the first of September, I went to Rockwell Creek, a deep well in the rock with any quantity of water-reed round it and in the creek.

Mr. Miller left us to-day, his business obliging him to return to Streaky Bay; in losing him, I shall lose an agreeable companion and most efficient assistant. The porcupine begins to give way to grass on the hills. I had some little difficulty in finding permanent water here, but at last dropped across two good creeks very near each other, which I named Clark's Creek and Pagan's Creek, one of the pack-horses of that name being the first discoverer. The ranges from this point begin to break off, and in about thirty miles run out into low hills towards Baxter's Range. These two creeks have no great quantity of surface water at present; but, from the great quantity of green water-reed in them I have no doubt a good supply may be obtained. This is the last permanent water I have been able to find, the horses being so footsore as to prevent my searching the country so thoroughly as I could wish. I spent several days in trying to find it as I was very anxious to get a good route for stock into the new country we have found; it leaves a gap of sixty-five or seventy miles west of Baxter's Range, with no summer water that I know of. I saw many traces of natives, crows, wild dogs, and any quantity of pigeons, and found more or less water-reed in several gullies, where perhaps by sinking a sufficient supply of water may be obtained. I went to the top of all the hills that promised to give me a good view of the country, from Mount Separation (where I parted from Mr. Harris) I could see no end to the good country, in the very far distance north it was either salt-bush or small bushes. From one or two hills I could make out, with the glass, high ranges in the far north, but so distant that no defined outline could be made out. The good grass country extends along our tracks for somewhere about eighty miles, and to each side from ten or fifteen to twenty or thirty miles, according as the scrub or the lake encroach more or less upon it.

From what I have gathered from the natives, I feel certain of the existence of a very extensive tract of good well-watered country to the north, but I think there may be considerable difficulty in finding a good route to it without the assistance of the blacks in finding the watering places. Very much of my success in finding the country I have, must be attributed to the general good conduct of the whole party. Mr. Harris did not seem to know the meaning of the word "trouble" where any surveying was in the question.

I have already reported to you that the horses and outfit generally are all safe and in good condition.

I have the honor to be, Sir,

Your obedient humble servant,

Marshal MacDermott, Esq., Commissioner of Crown Lands.

STEPHEN HACK.

Adelaide,



Adelaide, October 10, 1857.

Sir—The report which I have had the honor to send in from Mount Remarkable, dated 19th September, having been written rather hurriedly, I now beg to supplement that report with a further and somewhat more detailed account of my proceedings on the late exploration of the northern interior.

I landed in Port Lincoln on Saturday the 16th of May, and on the 18th commenced my journey from thence to Streaky Bay, which I reached on the 1st of June. I was occupied till the 22nd in removing the stores brought by the *Yatala* from the beach to Coeoyana, erecting the iron store, shoeing the horses, and getting the packs, &c., ready for starting.

There being no fresh water nearer to the beach than Coeoyana, three miles distant, I employed the men some days in sinking for water there, but only found salt water.

During this interval I wrote to Mr. Bonney, the then Commissioner of Crown Lands, asking for instructions in case I should find a good tract of country leading out from the present western boundary of this Province. In reply I was informed that the primary object of the expedition under my command was to explore the country lying *within* the South Australian territory; yet, in case the country outside the boundary line presented a more favorable line of route; or, should the general character of the country outside prove to be very much superior to that within the Province, I should, in either case, be fully justified in crossing the boundary line.

Having completed my preparations, I set out from Coeoyana on the 22nd of June, with seven pack horses, loaded with about 1,200lbs. of stores and necessaries; and, being informed by Mr. Price Maurice, who kindly assisted me with his team in removing the iron house and stores from the beach to Coeoyana, that, by going thirty miles east to Parla, I should find plenty of grass and water, and avoid some very dense scrubs through which a northerly course would have taken me, I decided on adopting that line of route.

I did not take the dray with me, as, from all the information I could obtain, I found I should have to make my way through many miles of scrub, where it would be more hindrance than help to me, and very many times during the journey I had proof of my having been right in doing so.

Shortly after starting, one of my most useful men, a Sydney native named Grant, became ill, and as I was unwilling to take him farther until I knew if his illness was serious or not, I left him at camp at Parla, and employed the interval in examining the country towards the Gawler Range, with the view of finding the best line of route to the north-west.

On my return to camp, I found the man considerably better, and next day proceeded on my journey. The second day after this he had a relapse, and I again left him in camp for four or five days, and devoted the time to obtaining some natives who were capable of acting as guides to water in the Gawler Range. After several disappointments, I succeeded in doing this, and returned with them to the camp at Yarwandutta.

I there found Grant so much worse, that I had no alternative but to send him back to depôt at Coeoyana, where he has since died. I availed myself of this opportunity, and replenished the packs with the same amount of stores that had been used during these delays, and started from Yarwandutta on the 21st July, and made for the Gawler Range, following it to the north-west.

On the 29th I had reached Yarlbinda, the farthest point to which the range extends in that direction, and ascended the highest hill I could find. From thence, nothing could be seen from west to north but a level sea of black-looking scrub, and nothing which could induce me to go in any particular direction in the hope of finding water.

East of north I could see some large hills, and the natives told me that I should find water in that direction, but that they knew of none in the level scrub before us. I then travelled for three days considerably north of east to Warrea, *en route* for Lake Gairdner, along the western shores of which I hoped to find a passage to the north. The same level country continued to the north of my track to Warrea, and from a high hill there (about 1,500 feet), I could see no better prospect than I had at Yarlbinda to the north and westward. The natives also refused to go in this direction, saying there was no water, and that the lake would stop us. The delay of hunting for water in such a very unlikely looking country as that to the north and north-west of Warrea, without the assistance of native guides, would have been very great; could I have seen, however distant, any range which might promise a change in the character of the country, as, for instance, that seen by me to the north-easterly from the southern extremity of Lake Gairdner, I should have thought it my duty to have attempted to force my way to it.

I left Warrea on the 3rd August, and found a limited tract of good country at Moonaree, a spring of considerable size, said to be permanent by the natives. The next two days we passed through scrub, until we reached Murnea, from which place we had our first view of an immense lake or plain of salt, since named Lake Gairdner, and which we have found to measure more than thirty miles across, and to extend northwards farther than can be seen from the highest ranges in the neighborhood, and looking like an immense snow-covered plain. From this date to the 25th of August, I was enabled to keep a native with me as guide to permanent water, which I have more minutely described in the reports already sent in, and which will be found laid down in the sketch of the country. After the blacks left me, I had to search for water myself, without their assistance, and succeeded in finding plenty for some days. But this entailing much more riding over rough, stony ground, the horses soon became so footsore as to prevent my attempting to find more than was sufficient to supply our wants, my spare horse-shoes not lasting out so well as the rations. The provisions were by this time so far exhausted as to determine me on making the best of my way to the settlements; and, on the 13th September, I detached Mr. Harris with one man, two natives, and three horses, to proceed to Coeoyana, to bring away the two men left at depôt, and to dispose of the surplus stores to Mr. Maurice, who was willing to take everything over at cost price.

At this time I had two courses open to me. One was to return with the whole party to Coeoyana, distant about 200 miles, the way I must have travelled to obtain water. Had I adopted

adopted this plan, there would not have been more than time to make a short excursion into the level country between the Gawler Range and the coast before the expiration of the six months that was named by the Government as the longest time the expedition would remain out.

And the other, to endeavor to connect the country I had discovered with Port Augusta, by finding a practicable route for stock, and thereby enable the Government immediately to dispose of pasturage without further delay or expense.

I have succeeded in finding a line of good feeding country the whole distance; but, as I have already stated, the horses became too footsore to enable me to prolong my search for permanent water.

The objects of the expedition, as detailed in the instructions received by me from the Government consisted of two main points.

1st. To examine the northern interior of the Province, if possible, as far as the northern boundary; and, secondly, to endeavor to open up an available country within the limits of the Province. This was considered of so much importance by the Government, that they offered to double the remuneration I was to receive for my services if I succeeded in opening up an available country of any considerable extent. In the more minute instructions received by me from the Commissioner of Crown Lands, I am directed to proceed due north from Streaky Bay, as near as the features of the country would allow, preferring rather to deviate to the west than the east, and to prosecute a search, if possible, as far as the northern boundary of the Province.

A line drawn north of Streaky Bay and all west of that line would have taken me through nothing but useless scrub, which, independently of Eyre's account and the testimony of the natives, I could see was the case when I was on the hill at Yarlbinda, from which point I overlooked all the country I must have passed through, had I kept to a northerly course from Streaky Bay. By doing so, I should have missed the Gawler Range altogether. I would therefore submit, that by diverging to the east instead of to the west, I was taking the best course to get north that the features of the country would allow. It has always been a principle with me, in exploring new country, to make for the highest ground I could find, at all in the direction I wished to proceed.

From the highest hill at Yarlbinda, I examined the country carefully from west to north, to ascertain if there was a possibility of continuing my route northward. As I have already stated, the Gawler Range here breaks off into small hills and ridges, and in a few miles dies out altogether. Beyond this there is a level sea of scrub, without a hill or rise of any sort to indicate the existence of water in one place more than another. I might have gone as far into this scrub as the horses could have lasted without water, and then have returned to Yarlbinda; but such a course would have knocked the horses up and crippled the future operations of the expedition, without there being a chance of obtaining any useful information, as from the hill I could see farther with the glass than a horse could travel without water, and would have been entirely opposed to what I considered my duty. However anxious I might be to act up to the letter of my instructions and continue to travel to the northward, it was quite evident to me that a practicable route must be sought for in another direction.

The natives having told me of an immense salt lake to the north and east, I determined to make for that, thinking it possible that I might be able to proceed to the north and westward along its shores. I therefore, after leaving Yarlbinda, went to Warrea, which I reached on the 1st of August. From the range here, I had an extensive view north and north-west.

There was a small range about twenty-five miles north of no great importance, and the last high ground to be seen northerly. There were salt lakes near it, apparently part of Lake Gairdner. I could see no prospect of my being able to find water to the north, my blacks saying there was none, and that the lake prevented my going in that direction, and refusing to go any further that way. As I had not more than six or seven weeks' rations, I considered that spending several days in attempting to get north-west with so little prospect of success, would have been a waste of time.

I then proceeded to the nearest point of the lake by a route on which the natives told me I should find water. When I reached the lake at Murnea, I again went on the hills, and could see the lake trending towards the salt lakes seen north of Warrea. North of Murnea, along the lake, was a barren, hilly scrub, and I could only hear of small rock waters, not enough for the horses.

I therefore determined to attempt to round the lake to the south, and my native guide took me much further south than proved afterwards to be necessary; but which enabled me to find and lay down several good permanent waters I should not otherwise have seen. The southern end of the lake being much among the hills prevented my seeing its termination.

As soon as I became aware that I had passed the end of the lake, I travelled north again, until I found its southern end, by which time my rations and horse-shoes were too far expended to allow me to do more than endeavor to find a practicable route for stock, *vid* Port Augusta, into the country I had discovered.

The results of this preliminary expedition have been, that I have examined the country from the sea-coast to the north-western termination of the Gawler Range, and thence to the western shore of Lake Gairdner; and, having seen very high ranges with the glass, eighty or 100 miles a little east of north from the southern end of the lake, I am satisfied that the true route into the interior will be found between Lake Torrens and Lake Gairdner.

With regard to the second object of the expedition, *viz.*—that of opening up an available country, I have to report that I have found, and laid down on the map, an extensive and good country, with sufficient permanent water to warrant its immediate occupation as pasturage land. It is about one hundred miles from east to west, with a width varying from twenty to fifty miles. All the waters placed on the map are placed in their true position. I have obtained the native names where I could obtain them, as being more useful than any other. I have also found a tract of good country, about sixty-five or seventy miles from east to west, and twenty to thirty miles

miles in width; which, as I have before explained, I was prevented from fully examining for permanent water. According to my instructions, I have furnished, in my former reports, a description of the country, timber, &c.; and it is with much satisfaction that I am able to report that, supposing Mr. Harris shall return safely with that portion of the outfit and horses under his charge, the whole of the outfit has been brought back in safe and good condition, and that the horses average very much better condition than when they started.

I would beg to state, in conclusion, that all the men employed in the expedition conducted themselves remarkably well, and that I can speak in the highest terms of the ability and assiduity of Mr. Harris, who accompanied me as surveyor.

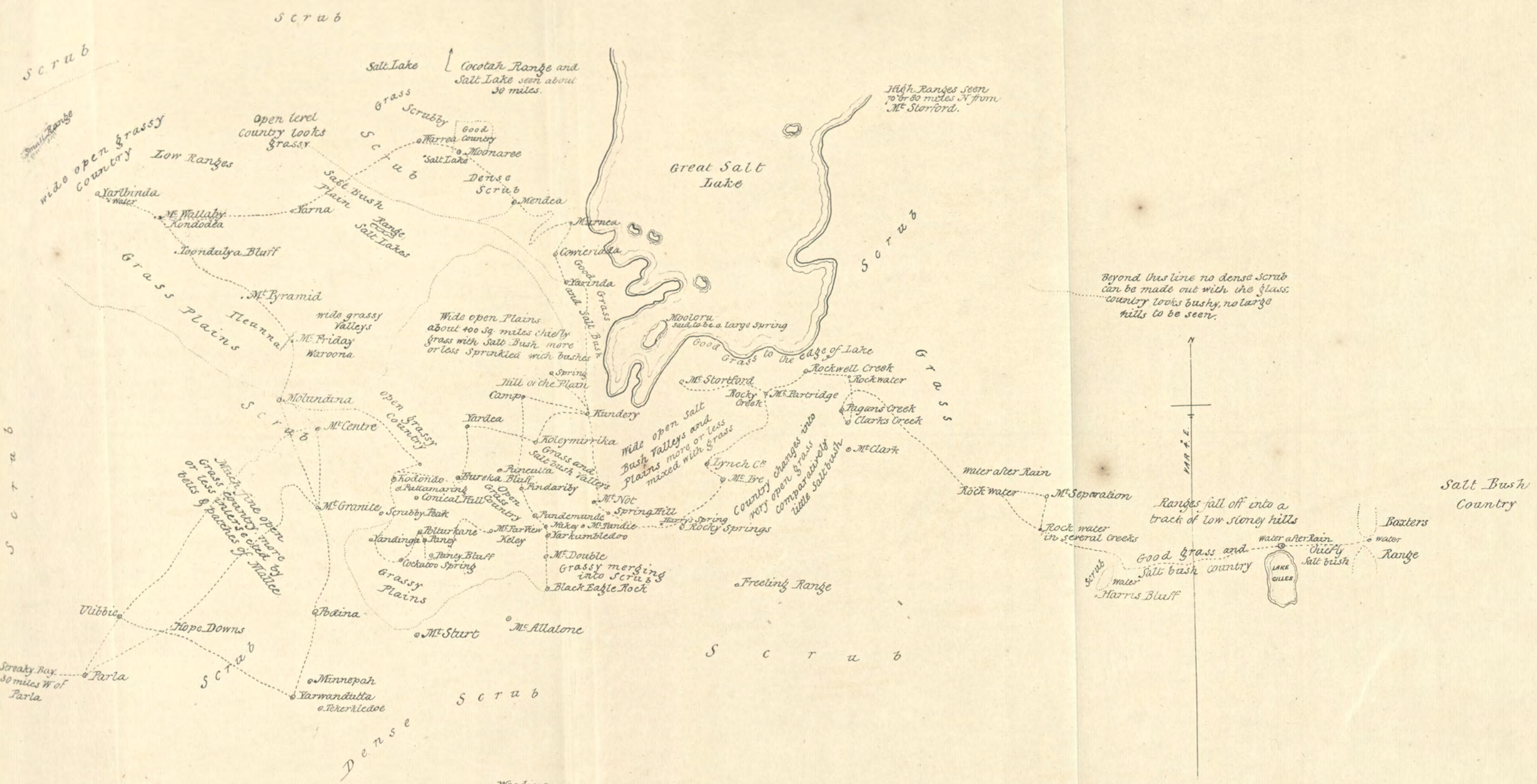
I have the honor to be, Sir,

Your obedient humble servant,

STEPHEN HACK.

Hon. Francis S. Dutton, Commissioner of Crown Lands.





Cocotah Range and Salt Lake seen about 30 miles.

High Ranges seen 70 or 80 miles N from Mt. Sturtford.

Beyond this line no dense scrub can be made out with the glass; country looks bushy, no large hills to be seen.

N  
S  
Y.A.S.E.

Ranges fall off into a track of low stoney hills

Good grass and salt bush country



Salt Bush Country

Enclosure in Mr. Hack's letter  
Oct. 10<sup>th</sup> 1857.

