



Report
on
Proposed Improvement to Tracks
in the Colony
and
on Motor expedition to Darwin
in connection with the first Survey.

4th April, 1930.

C O N T E N T S .

NOTE:- At the end a map is folded on the inside cover to facilitate reference during the reading of this report.

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PUBLIC WORKS DEPARTMENT,

PORT STANLEY,

FALKLAND ISLANDS,

4th April, 1930.

Sir,

His Excellency the Governor desiring a report on the possibilities of the improvement in communication between the different stations on the Islands, by the construction of tracks suitable for motor transport, I have the honour to submit the following report.

On Wednesday, 26th March, 1930, approval was given to me by His Excellency for an attempt to be made to travel by motor lorry from Port Stanley to Port Darwin, a distance of some sixty miles, with a view to making a rough survey as to the feasibility of track construction for cars.

To the lay mind, sixty miles by motor is nothing, but in a country consisting of mountains, stone-runs, streams, rivers and bogs, the journey presented rather a different aspect.

The date of starting was left to me, so I decided to make the attempt at the earliest possible moment. I selected for the job a Morris Commercial 30 cwt. with creeper tracks. Four volunteers were called for to accompany me.

With the lorry loaded a trial run was made on the evening of the 27th March, over sections of ground representing difficulties expected on the track. The lorry's performance justified the opinion that it would be able to cover the ground ahead successfully. Preparations for this adventurous undertaking were complete on Friday, 28th, and an early start was arranged for the following morning. During the night a torrential downpour of rain increased the difficulties considerably by flooding the boggy flats and swelling the streams. Despite this setback however, the Expedition left the Garage at 6.20 a.m. on Saturday, the 29th March, 1930. The lorry's equipment consisted of:- Food and clothing for one week, bedding, 50 gallons of petrol, 2 gallons of oil, spare tyres, springs and sundry small spares, tools including crow bars, picks, spades, blocks and tackle, and 'T' irons, 9" x 3" deals, packing, jacks, rolls of wire netting and a tent. I agree that this is a miscellaneous collection, but we were starting out to cover what might be described as some of the roughest country in the world, and a track over which, up to the present, only horses had travelled.

The main road was left within half a mile of the Garage, and the tracks were fitted (see photograph No. 1.) preparatory to climbing a steep rockstrewn gradient on to the peat banks, en route for Sappers' Hill and Mount William.

The first occurrence of note was the appearance of smoke issuing from the underside of the lorry. This turned out to be caused by the presence of peat dust on the silencer which, with the heat of a fast running engine was soon very hot. After the dust was removed the journey was continued through Sappers' Hill gate in a more or less straight line to Pony Pass, which is situated between Mount William and Mount Harriet, being six and a quarter miles from Stanley. The ground up to this point had consisted of balsam bogs and numerous outcrops of rock. (See photographs Nos. 2 and 3.) In the bottom of Pony Pass were 15" of water and many boulders. The larger rocks were removed as they endangered the differential casings. Proceeding from Pony Pass, which was negotiated without accident, we travelled in a south-westerly direction over fairly good camp to Browning's boundary gate, at the foot of Mount Harriet. We had to remove large stones from this gateway, which caused an unwelcome delay of fifteen minutes.

Eight and three quarter miles from Stanley we came abreast of Port Harriet house. The attention of our guide, Mr. McGill, was attracted by sounding the horn. Mr. McGill piloted us, by the best route, to the first Cave Rosia Pass, nine and a half miles out. Rocks had to be cleared and a successful crossing was made through 18" of water. From this point

THE HONOURABLE

THE COLONIAL SECRETARY,

PORT STANLEY,

FALKLAND ISLANDS.

our guide conducted us to the boundary fence of Port Harriet and Bluff Cove. The track was laid between the flats and stone-runs. At the boundary fence which was reached at 9.45. a.m., we made a short stop for breakfast. The guide returned to his homestead (see photograph No. 4.) and we continued our way in the direction of Bluff Cove. Up till now no serious mishap had occurred, but when only two miles further on, we became badly bogged (see photograph No. 5) in trying to avoid the first of a series of large and impassable stone-runs. The rear of the lorry sank to the underside of the decking, in a quagmire seven feet deep. Mr. W. Morrison arrived on horseback at this juncture and rendered every possible assistance.

The peat was excavated from the wheels and flat rocks were carried from a neighbouring stone-run and placed under the tracks to provide a grip. With the assistance of channel irons placed ahead and a block and tackle the lorry was eventually extricated from this morass (see photograph Nos. 6, 7, and 8.) The nature of the bog is apparent when it is stated that planks had to be pushed under the body to prevent it sinking altogether.

After a delay of two hours, which we could ill-afford, we were conducted by Mr. Morrison to Bluff Cove, over the worst camp we experienced during the whole journey. For miles the ground was covered with treacherous stone-runs on the high levels, small streams and runners (see photographs Nos. 9 and 10) in the middle heights, and impenetrable bogland on the flats. The only course open to us was one of tortuous winding between stone-runs and small streams. Two of the worst streams on this section of camp were encountered. They are known as the Shanty Gate Streams, and are situated to the north of Bluff Cove and discharge into the head of Bluff Cove Creek (see photograph No. 11.) The banks are four feet deep, contain 2'6" of water, and the streams are fifteen feet wide. Another delay occurred here, because the banks had to be dug away to allow the lorry a passage.

The lorry was now taken into Bluff Cove Creek, (see photographs Nos. 12 and 13) the banks having to be cut to allow this. Whilst passing through the Creek water was introduced into the clutch house and the engine had to be kept running or mechanical trouble would have resulted. At one part of the crossing the water reached the bottom of the radiator. The pass through the Creek is 300' wide, with a rocky bottom. Mr. Morrison was of invaluable assistance in pointing out the passage through the Creek. Bluff Cove House, which is on the bank of the Creek, was reached at 2.10 p.m. and here a halt was called for luncheon. We were now 17½ miles from Stanley.

Between Bluff Cove and Hill Side, the next station, the going showed improvement but was marred to a large extent by a peat flat and four bad streams. (See photograph No. 14.) At all of these streams the banks had to be cut down and rocks removed to allow a passage for the lorry. The worst stream of this series is the Van Tan. (See photograph No. 15.) This stream is forty feet wide and its bed is covered with huge boulders washed down from a stone-run. The Van Tan stream is 22½ miles out.

On the stretch from Bluff Cove to Hill Side, the fuel tank was replenished and this, coupled with the delays occurring at all the streams, forced us to abandon our original object of getting to Mount Pleasant that day. We were overtaken by darkness before we arrived at Hill Side and had to finish the journey under headlamps, the lorry being preceded by a man on foot. This latter proceeding was rendered necessary by the fact that for the last half mile the ground was honeycombed with underground runners, some of them barely visible and 3' to 4' deep, I provoked much mirth by falling into one of these holes, the driver endeavouring to expedite my extrication by a prolonged operation of the horn. Our hostess, Mrs. Anderson, served us with supper and we retired for the night, tired but triumphant. We were now twenty six miles out.

At 5.0 a.m. next morning we commenced to overhaul the engine, and to grease the bearings, etc. Repeated efforts to start the engine were unavailing and it was found that a jet in the carburettor was blocked with a substance like cotton wool. One member of the party climbed a telephone pole to obtain a piece of thin wire with which to clean the jet. This was done and a start was made at 7.10 a.m. in company with Mr. Anderson, shepherd at Hill Side, as guide, to take us through a bad pass named Jerry's Rosia. At this Pass, as previously, rocks had to be cleared and banks cut down in order that the lorry might pass. A succesful crossing was made at 7.30 a.m. We were twenty seven miles from Stanley.

Before we reached Mount Pleasant two more streams had to be passed. These were Fitzroy Rosia (see photograph No. 16) Arroyo Mount Pleasant. (See photograph No 17)

The latter stream is quite small but the approaches, for one mile on either side, are sprinkled with dangerous runners, where we found it necessary to plank down to prevent the lorry sinking into them.

Apart from these runners, the camp from Hill Side to Mount Pleasant was found to be much harder than that previously encountered. On this section many steep climbs had to be made, some of them having a gradient of 1 in 3.

At 9.30 a.m. we reached Mount Pleasant, which is nine and three quarters miles from Hill Side, and thirty four and three quarter miles from Stanley. We stayed here for three quarters of an hour and ate breakfast kindly provided by Mrs. Henricksen.

We were now light hearted at the prospect of having good camp and a track to run over from Mount Pleasant to Darwin, so we took off our creeper track and started out for Darwin at 10.15 a.m. travelling in a southerly direction around the Paddock adjoining the house then down a very steep incline into a pass with 18" of water in it. This proved too much for the lorry without its tracks, as the approach to the stream consisted of soft grey clay, very much cut up by sheep and cattle. The wheels of the lorry spun without forward movement and although the lorry was not bogged, it failed to negotiate the stream until we jacked it up and placed bags under the wheels. This delayed us for some 40 minutes. Having got out we still proceeded without the tracks, but this was soon found to be impracticable, owing to the nature of the soil, which consisted of wet peat; so the creeper tracks were put on again. We only travelled one mile without them.

We now came to the track cut out for the passage of the Ford car in travelling between Mount Pleasant and Darwin. This track consists of two ploughed furrows, the width of the wheels. This proved useless for the MORRIS 6 WHEELER to travel on, as the wheelbase is wider.

Fair progress was made towards the next stream which is called Antiojo. (See photograph No. 18.) This stream is some forty feet wide and is strewn with large boulders which wash down from the hills during the winter floods. It was necessary to remove the larger ones to prevent damage to the differential casings.

Swan Inlet was next reached at 1.5 p.m. being forty miles out. This stream is about one hundred and forty feet wide and runs at a fair speed. I can imagine that this stream is very ugly when in flood, and has no doubt been the cause of holding up many riders. We were met here by the shepherd from Swan Inlet House, (see photograph No. 19) who kindly piloted us through and invited us to the house for refreshments, but as we were anxious to reach our goal, we thanked him and pushed on. (See photographs Nos. 20 and 21). I might say that the approach to the pass is very soft, and unless one is familiar with the spot, one is likely to become bogged. This fate almost befell us, but fortunately we stopped just in time, with only one wheel slipping in; (see photograph No. 22) this was quickly got out.

The pass crossed, we proceeded on our way to Darwin. The only pass worthy of mention between Swan Inlet and Darwin is the Canon Ronde Pass. (See photographs Nos. 23. and 24.) This caused us no trouble but it has extremely steep approaches. Fifty and a quarter miles out - 2.45 p.m. - we sighted Darwin over the hills and with our destination now in sight we decided to stop for food and replenish the fuel. Darwin was reached at 4.30 p.m. with the speedometer showing 59.1/10 miles. The last four and a half miles were the best we had experienced during the whole trip, as this consisted of an eight feet track having had the top sod cut off and thereby exposing the hard clay underneath.

A good deal of work has been put in on forming a track for a car between Mount Pleasant and Darwin. A good track exists for the first four and a half miles out of Darwin. The remainder consists of two cut furrows for most part of the way, with bogs cut off in places. Wire netting has been laid along the softest flats and light wooden bridges have been constructed over the small streams. It was necessary, before crossing these with the lorry, to take them up and strengthen them with deals which the lorry carried for this purpose; after the lorry had crossed the planks were removed and the bridges left as we found them. This caused some delay.

We entered Darwin with our horn blowing and had a splendid reception. People vied with one another to congratulate and photograph us. (See photograph No. 25.) Our triumphant entry will doubtless appear on the screen, for Dr. Wilson was busy with his

cinematograph camera. The Hon. George and Mrs. Bonner, Miss Kathleen Bonner and Mrs. Slaughter evinced considerable interest and were given a ride in the lorry. The men, with the lorry, then repaired to the new settlement, where they were to spend the night.

On Monday, 31st March, all hands were up at 5.0 a.m. We loaded up with petrol and overhauled the machinery, had breakfast and started for Darwin from Goose Green, which we reached at 6.45 a.m. We said "Good-bye" and set our faces to Stanley. (See photograph No. 26. The team is from left to right:- The Honourable G. Roberts, Colonial Engineer (in charge of the Expedition) R. H. Ballard, Driver and Mechanic, P. Smith, Spare Driver, E. J. Gleadell and T. Paice (on lorry) Track Guides.

The going was good and we had no mishap until seven and a half miles out from Darwin, when the vacuum pipe operating the servo vacuum assisted brakes, snapped off near the induction pipe. A temporary repair was effected by means of bandages and string and no more trouble was forthcoming from this quarter.

On the return journey we had to pull all the bridges up again and strengthen them, as before.

At Swan Inlet a little shooting excursion was arranged and we shot fifteen geese in an hour; after this we had some food and proceeded on our way to Mount Pleasant, which we reached at 12.30 p.m. Mrs. Henricksen kindly provided us with luncheon. Our stay here was very short as we were anxious to make the most of the daylight hours; so we continued on to Hill Side with the minimum delay. Between Mount Pleasant and Hill Side a rather better route was taken than on the outward journey. This improved the time somewhat. On the way from Mount Pleasant to Hill Side the lorry slipped into a bog hole, but was easily got out with a delay of only half an hour. In this I consider that we were fortunate, for when one gets into one of these holes, anything can happen; even to losing sight of the lorry altogether. We reached Hill Side at 4.0 p.m. but did not stop as we were anxious to get to Bluff Cove that evening, and even more anxious were we to get through the Cave Rosia Stream before dark. This is one of the worst streams between Hill Side and Bluff Cove because the approaches to the pass are honeycombed with bogholes and underground runners. These underground runners are very treacherous, especially in the dark. Apparently on the surface they are hard, and one can see but very little of them as they are covered with a hard crust, which promptly gives way when any weight is put on it. It is then possible to find oneself deposited into a hole anything from 3 to 5 feet deep, with more often than not, a couple of feet of water in the bottom. These runners commence at the bases of stone-runs in the mountains and cut their way through the peat, between the crusted surface and the hard clay bottom, continuing their course until they find an outlet into the main stream or sea.

We were also anxious to get on, because on this stage of the journey we had a nasty peat bog to go through, stretching some three miles and as it was an uphill climb through this there was every possibility of getting bogged. We reached the bog and put the motor "all out" but we had not traversed more than three quarters of a mile when it began to sink and we had to stop, dig out the wheels and place the planks underneath; we were out and away with a cheer, but our joy was short-lived, for during the next mile we bogged no less than three times, and each time we had to unload to lighten the lorry, dig out the wheels and carry rocks from stone-runs situated some quarter of a mile uphill; each man making three or four journeys every time. With the aid of these under the wheels we managed to get out. All were tired out and darkness was setting in by this time. The men began to suggest that we should get out our tent and camp for the night, but I pointed out to them the discomfort accruing from camping in a bog, and urged them to make another effort. So we decided to turn the lorry south, in order to get a downhill run and make for the sea, with a view to finding a track round the beach. We proceeded some way with one wheel on the beach and one in the sea and presently struck a small creek, at the head of Fitzroy River through which we found a pass; and then climbed on to a high ridge and travelled east, abreast of Fitzroy River, where we found the track to be much harder. It was now pitch dark so we had to travel cautiously with all four headlamps on. Our troubles were not yet over by any means for we had only proceeded another mile when the fuel gave out and then someone discovered that we had lost one of our creeper tracks.

This greatly disheartened the whole party, but we could not have finished our journey without it, so we had to trace the track of the lorry back with the aid of a spent torch, for about a mile. We found the offending track it having come off through a broken rivet.

Fortune smiled upon us for a moment because we also found the rivet. The track was shouldered by the whole party and carried back to the lorry, where tools were procured and the indefatigable Ballard, our motor mechanic, promptly got to work and rivetted the broken part. We now had to take in petrol, and slight moans were heard; and no wonder when one realises that these hardy men had been on the track since 5.0. a.m., it now being 8.0. p.m. and they had been working all out time and again, strengthening bridges, clearing passes, inspecting tracks ahead of the lorry and, worst of all, getting the lorry free when bogged. I however, had a little reserve of power left in the form of a bottle of brandy, which I had brought together with a few medical supplies. I thought it wise to produce it at this stage and unearthed the bottle from a bundle of blankets and waterproof sheeting; carefully measured it into five equal parts and bade each man drink. Despite the fact that three were total abstainers, they took the welcome draught. It certainly cheered them up, for I overheard one man, I might call him the strong man of the party, expressing the wish that he had brought his banjo, and someone started to sing the "Gay Cavallero". Fuel was soon taken in and another start made.

Before reaching the Cave Rosia Pass we had another little experience, for we found ourselves going down a steep incline instead of keeping to the ridge. We stopped and went on foot to examine the valley and it was as well that we did so, for we found that we were making for a steep cliff, some thirty feet deep and a drop into Fitzroy River. This decided us to rely on the compass and so we turned and steered due east. We were soon rewarded, for on the skyline we saw the reflection of Cape Pembroke Lighthouse.

Cave Rosia was found about 9.0. p.m. and after a little surveying we managed to find the way into the pass, which we negotiated safely, climbing again on to the ridge and heading straight for Bluff Cove. We saw the welcome lights at 9.20. p.m. Mr. Morrison had been expecting us and had had prepared a very much appreciated hot meal. He was kindness personified. He refused to let the men pack up the lorry for the night, but insisted on all hands going straight for the house, whilst he and his men put the lorry up and secured things. By now we were all utterly exhausted, having had one of the hardest days possible to imagine. I have had various experiences in different parts of the world and can speak with authority about hard work, having had a fair share; but I can honestly say that this day stands out in my mind as one of the hardest I have ever experienced, and every credit is due to the men for the dogged perseverance with which they executed their duties. After a refreshing wash and a satisfying meal, we went to bed and were soon lost in oblivion.

All hands were up at 7.0 a.m. and the lorry was overhauled. Our mechanic made a more lasting repair of the vacuum pipe and tightened up the tracks which had been somewhat stretched. We left Bluff Cove on the last stage of our journey to Stanley at 9.30 a.m. Mr. W. Morrison again rendered assistance by acting as our guide through the passes at the head of Bluff Cove Creek; and also over three small streams which discharge into this Creek.

The last stage we took fairly easily, and there is very little left to chronicle, excepting that the track came off about half way on the journey, due to it being a little slack - and one cannot wonder at this, for over the last five miles the ground was dotted with stone-runs, balsam bogs and diddle-dee clumps, the stone-runs being particularly hard on the creeper tracks.

We eventually arrived back in Stanley (see photograph No. 27) at 3.35 p.m. our first call being Government House, to deliver a letter which was part of the mail brought from the various camp stations. His Excellency accompanied by Mrs. Hodson and Major Hay of Seaton, inspected the lorry and heartily congratulated the team on having successfully made the first trip by motor in the history of the Colony from Stanley to Darwin and back.

It may be said by many that we should have taken such and such a track, we should then have escaped such and such a stream or bog. This was quite realised; but the object of this trip was not to find the quickest route, but to make a rough survey of the camp, with a view to ascertaining the possibility or feasibility of making a track for motor transport.

This has been achieved and much valuable information has been obtained.

CONCLUSION.

(1) The route between Port Stanley and Bluff Cove Settlement, consists of peat banks, swamps, stone-runs and outcrops of rock, intermingled with streams.

(2) Bluff Cove to Hill Side :- Hills and deep valleys, with large boggy flats and streams.

(3) Hill Side to Mount Pleasant:— Hills and valleys with occasional streams and small bogs. On the whole the ground is much harder.
NOTE.— Hill Side Settlement should be avoided, the best route being to cross the head of Fitzroy River (to the south side), turn west and keep to the ridge of the hills, travelling in a westerly direction until Mount Pleasant Pond is reached. This is a shorter route than the one mentioned in the report and is certainly much harder ground.

(4) Mount Pleasant to Darwin is much harder camp than any of the former, with constant hills and valleys and three streams which require bridging.

I am of opinion that whilst it is feasible, it is not an economical proposition to make tracks suitable for motor transport between Darwin and Port Stanley. This equally applies to other parts of the East Falkland: in fact more so, in taking the route to the North Camp where the ground is more difficult owing to the rugged mountain ridges and impassable valleys.

The distance travelled from Port Stanley to Darwin was 59.1/10 miles. I estimate that if a road was made or the track improved this could be shortened by at least six miles, making the distance 53 miles.

On the supposition that a metalled road was made to take motor lorries for the transport of wool, the initial cost, estimating the work at 50/- per yard run, would be £233,200, with an annual expenditure of £800 for upkeep. Even then it would not be possible to make the journey during the winter months owing to the flooded valleys, snow drifts and severe blizzards. Further, the running costs would be heavy, as practically the whole distance consists of hills and valleys, the gradients being chiefly from 1 in 3 to 1 in 5. I have worked out roughly the cost of transport of wool from Darwin to Port Stanley, if such a road was ever constructed, and it is approximately £7. 10s. 0d. per ton. This, combined with the initial outlay, prohibits the project.

I am however, of opinion that the tracks, not only to Darwin but to the other camp stations, should be improved. If this was done it would prove a great benefit to doctors, mailmen and other riders making the journeys on horseback. We frequently hear of riders being held up by the side of a stream for days, when the stream is in flood; also of people being lost in the mountains due to them having come off or losing the track; of horses getting bogged and throwing their riders, with serious results to the riders. During the past few years two doctors have been permanently disabled and as recently as last month a camp manager, Mr. Slaughter, J.P., was thrown and had his leg broken. Many of such hardships and accidents would be avoided if tracks were improved. I would recommend that:—

- (a) The track be marked out with guiding posts, say approximately every quarter or half mile, two posts being placed abreast at the bridges or passes. The posts would consist of ordinary 4" by 3" Sandy Point timber, standing from four to five feet above the level of the ground and to be painted white.
- (b) Bridge the worst of the streams with light sectional steel bridges or with Sandy Point timber. The latter is obtainable fairly cheaply in the Colony and bridges constructed of this would cost little for upkeep.
- (c) Rocks to be cleared on the track from the bases of the stone-runs.
- (d) Gateways to be paved with flat rocks, which are available on the track.
- (e) Break down the crusts of the underground runners and fill in with rocks from the stone-runs.
- (f) Cut off balsam bogs and other high clumps.

I estimate that the cost of this work if carried out by the various farmers on the spot, would be, over a bad section of camp such as from Stanley to the head of the Fitzroy River, £30 per mile plus the cost of bridges, which would work out at approximately 22/- per foot run, for each stream, for materials. Other sections of better camps such as from the head of the Fitzroy River to Darwin could be done for £20 per mile, plus cost of bridging.

It is my opinion that if these improvements were carried out and a little work done to the tracks each year, that in time it would be possible, during the summer months, to make the journey in a powerful motor car equipped with creeping tracks.

I strongly recommend that the Government should not carry out the work of improving the tracks, except that it be on suburban land, but that the Farmers should do the work and be given a subsidy up to the amount stated and according to the amount of work performed.

I attach a list showing the number of bridges required with their various widths and approximate cost of materials. Also a list giving the distances from Stanley of the various boundaries, passes and settlements.

I have the honour to be,

Sir,

Your obedient servant,

G. ROBERTS,

Colonial Engineer.

*Number of Bridges Required on the Track from Port Stanley to Darwin,
with Approximate Widths and Prices for Materials.*

Pony's Pass	20 ft.	...	20 : 0 : 0.
First Cave Rosia	22 ft.	...	22 : 0 : 0.
Bluff Cove Shanty Gate Streams	15 ft.	...	17 : 0 : 0.
Two small Streams to avoid Bluff Cove Creek	1 — 10 ft.	...	10 : 0 : 0.
	1 — 12 ft.	...	12 : 0 : 0.
Second Cave Rosia	20 ft.	...	23 : 0 : 0.
Second Stream west of Robson's Ground ...	18 ft.	...	18 : 0 : 0.
Van Tan Stream	40 ft.	...	50 : 0 : 0.
Stream from Hill Side to Fitzroy River ...	20 ft.	...	25 : 0 : 0.
Jerry's Rosia	10 ft.	...	12 : 0 : 0.
Fitzroy Rosia	30 ft.	...	35 : 0 : 0.
Arroyo Mount Pleasant	12 ft.	...	14 : 0 : 0.
Stream west of Mount Pleasant	20 ft.	...	25 : 0 : 0.
Antiojo	40 ft.	...	60 : 0 : 0.
Swan Inlet	140 ft.	...	120 : 0 : 0.
Canon Ronde	30 ft.	...	30 : 0 : 0.
			<hr/>
			£493 : 0 : 0.
Plus approximately 20 other small streams requiring bridges of an average width of 8 ft. @ £1 per foot		...	160 : 0 : 0.
			<hr/>
	Total	...	<u>£653 : 0 : 0.</u>

Distances from Stanley to various points on the route taken to Darwin.

—:O:—

Stanley to Sappers' Hill Gate	...	...	...	...	2.3/10 Miles.
„ „ Stone-run south of Mount William	...	...	...	...	4. „
„ „ Pony's Pass	...	...	...	...	6.1/5 „
„ „ Mullet Creek, Browning's Boundary	...	...	...	...	7.1/2 „
„ „ Port Harriet House	...	...	...	...	8.7/10 „
„ „ First Cave Rosia Stream	...	...	...	...	9.3/5 „
„ „ First Fence between Port Harriet and Bluff Cove	...	...	...	...	11.1/5 „
„ „ Bluff Cove Stone-run Stream of liquid peat	...	...	...	...	13.7/10 „
„ „ Bluff Cove Shanty Gate Stream	...	...	...	...	15. „
„ „ Bluff Cove Creek	...	...	...	...	16.3/10 „
„ „ Bluff Cove House	...	...	...	...	17.3/10 „
„ „ Robson's Boundary Fence	...	...	...	...	18.7/10 „
„ „ Second Cave Rosia Stream	...	...	...	...	20. „
„ „ Second Stream west on Robson's Ground	...	...	...	...	20.4/5 „
„ „ Van Tan Stream	...	...	...	...	22.3/10 „
„ „ Stream from Hill Side to Head of Fitzroy River	...	...	...	...	23.1/10 „
„ „ Hill Side House	...	...	...	...	25.9/10 „
„ „ Jerry's Rosia	...	...	...	...	27. „
„ „ Fitzroy Rosia	...	...	...	...	27.1/2 „
„ „ Arroyo Mount Pleasant	...	...	...	...	30.1/10 „
„ „ Mount Pleasant	...	...	...	...	34.7/10 „
„ „ Stream west of Mount Pleasant	...	...	...	...	35.3/5 „
„ „ Antiojo Stream	...	...	...	...	40. „
„ „ Swan Inlet	...	...	...	...	41.1/5 „
„ „ Canon Ronde	...	...	...	...	56. „
„ „ DARWIN	...	...	...	...	59.1/10 „



(1) Creeper Tracks being fitted.



(2) Balsam Bogs, Port Harriet.



(3) Outcrops of Rock and Stone-Runs.



(4) Guide at Port Harriet.



(5) Lorry badly bogged.



(6) Lorry extricated from the bog.



(7) Lorry extricated from the bog.



(8) Reloading the Lorry.



(9) Approaching a Runner.



(10) Climbing out of a Runner.



(11) Stream discharging into Bluff Cove Creek.



(12) In Bluff Cove Creek.



(13) In Bluff Cove Creek.



(14) Stream between Bluff Cove and Hill Side.



(15) Crossing the Van Tan.



(16) Crossing the Fitzroy Rosia.



(17) Climbing out of Arroyo Mount Pleasant.



(18) Crossing the Antiojo.



(19) Being piloted through Swan Inlet.



(20) Approaching the Banks of Swan Inlet.



(21) Climbing out of Swan Inlet.



(22) Almost bogged. Swan Inlet.



(23) Through the Canon Ronde.



(24) Climbing out of Canon Ronde.



(25) Arrival at Port Darwin.



(26) Leaving Port Darwin.



(27) Arrival back in Stanley.

