

John Cooper
TOP SECRET.

H.M.S.A.S. "Transvaal"
at CAPE TOWN.

14th January, 1948.

OPERATION "SNOEKTOWN".

Sir,

I have the honour to submit a report on the completion of the above operation.

1. In accordance with the instructions contained in your minute SAN.3/11/1 dated 20th December, 1947, H.M.S.A. Ship "Transvaal" under command sailed from Cape Town at 1036B on the 21st December, 1947.
2. Courses were laid as requisite to make a point of departure from Cape St. Blaize, in order to cross the Agulhas Bank by the shortest route. Speed of advance was 15 knots (150 revolutions).
3. Sea and air temperatures commenced to drop immediately the 40th parallel was crossed. The weather was moderately good with a long westerley swell.
4. At 2400 on the 24th December, 1947 "Orange" was picked up by radar at a distance of 92000 yards (46 miles) and at 0010 on Christmas Day "William" was picked up at 44000 yards (22miles). Speed was then reduced to 8 knots in order to arrive in daylight.
5. At dawn on Christmas Day the weather began to deteriorate rapidly and by 0800 the wind was from the West, Force 8-9, with an overcast sky and rain. Visibility was bad. It was deemed inadvisable to approach the islands with the weather conditions as they were, so the ship was run clear to the Southward and hove to.
6. The ship remained hove to until 1700 on the 27th December. During this time the weather was very bad. The wind veered to the North West and eventually reached Force 9, producing a very bad sea. The ship rolled and pitched violently and pounded very heavily on many occasions. Speed was reduced to the minimum necessary to maintain steerage way, and the wind and sea kept approximately 15° on the Starboard bow in order to minimise pounding but with the wind backing and veering 30° at a time without warning the sea and swell became more and more confused and it was only by constant vigilance on the part of the Officer of the Watch that no severe damage was incurred. The ship was moderately dry, although at times she picked up half the Southern ocean and threw it over the funnel. This weather was accompanied by heavy falls of snow,
7. Notwithstanding this, it was possible for the ship's company to have their Christmas dinner, and to decorate their Messes and conform to the traditions of a Naval Christmas.
8. At 2230 on the 27th December radar contact was obtained on "Orange" at a range of 54 miles, and at 0400 both "William" and "Orange" were in sight, and provincial reconnoitring was commenced. A very heavy swell was running between the islands, and whilst turning on one occasion the sounding boom was rolled under, which indicates a roll of somewhere in the neighbourhood of 25°.

By 1300 the weather had again deteriorated to an extent which made it inadvisable to remain in the vicinity of the islands during darkness, so the ship was run clear to the South West and hove to.

9. Shortly after midnight the weather moderated sufficiently to allow a return to the islands, and by 0400 the ship was steaming between the islands. The events of this day (December 29th, 1947) are dealt with in the section of this report headed "Landing on Marion Island".

10. The ship remained in the anchorage until 2300 on the 30th December when bad weather necessitated proceeding to sea. The ship remained hove to under the lee of the island, but next morning, although the weather was too bad to attempt further landing operations, an attempt was made to survey "William" from seaward, but decreasing visibility coupled with radar defects made this impracticable, and the ship was accordingly once again run clear to the South West and hove to.

11. Early on New Year's day the ship returned to the islands, and a further attempt to circumnavigate "William" was made, but a very heavy swell and a Westerly Wind of Force 6 made this impossible, so after several stupendous rolls whilst altering course the ship was placed under the lee of "Orange" to await an improvement in the weather, which eventually occurred during the early afternoon, and the ship was finally anchored off the landing beach.

12. An attempt to consolidate the landing on "Orange" was made on the 2nd January, but after a few hours the weather again took a hand and operations were suspended. (See "Landing on Marion Island").

13. On the 3rd January, the weather being perfect, consolidation of the landing on "Orange" was carried out, and this continued on the morning of the 4th January, when the shore party, with the exception of Lieutenant Grindley and the Medical Officer, were landed. (See "Landing on Marion Island").

14. At 1130 on the 4th January, the weather being very favourable the ship proceeded to "William" and by 1630 sovereignty had been proclaimed. (See "Landing on Prince Edward Island"). The ship then attempted to return to her anchorage at "Orange" but a thick fog intervened, and the night and the greater part of the 5th January were spent steaming to the South East of the islands.

15. During the afternoon of the 5th January the fog lifted and by 1845 the ship was again anchored off the landing beach. The remainder of the shore party were landed, and after ascertaining that the men ashore were quite happy the ship sailed on her return to Cape Town at about 2100, no further value being expected to accrue to prolonging the stay at the islands any longer, and it was considered adviseable to get as far North as possible whilst the good weather lasted. So after much blowing of whistles and syrens and a fireworks display by the Gunnery Officer, the ship left.

16. The weather on the passage home was perfect, except that a very heavy swell made the ship in her light condition do some pretty average rolls.

17. "Natal" was met at the rendezvous without difficulty, and after passing over the Code Books and information about the islands and receiving some much needed cigarettes in return, guardian-ship of the Union's new territory was handed over to "Natal", and the ship eventually docked at Cape Town at 1102 on the 10th January, 20 days after sailing.

18.

The following detailed reports are appended.

1. Landing on Marion Island.
2. Landing on Prince Edward Island.
3. General Description - Marion and Prince Edward Islands.
4. Hydrographical and Navigational Data, Landings, Anchorages, etc.
5. Meteorological Data.
6. Victualling.
7. Medical.
8. Personnel.
9. Orders for Commanding Officer, Shore Party.
10. Sketches of the Islands (Originals only) by Mr. A.F. Jones, Gunner, S.A.N.F.
11. Engineering Data.
12. Communications.

19. Undeveloped photographic films of events at the islands will be retained on board pending your instructions.

20. Reports by Captain Anderson, S.A.E.C., Captain Broadhurst, S.A.A.F. and Mr. J.A.King will be submitted direct to their departments.

21. A list of Stores items and clothing expended or left on the islands will be submitted to the Controller of Stores and Accounts direct.

22. All defects have been reported to the Staff Officers concerned and are already in hand.

23. It is requested that to commemorate the part taken by this in annexing the islands that the landing place used may be named "Transvaal Cove" and the point of land sheltering the landing place on Prince Edward Island be named "Sadler Point" after No.P.12110 Petty Officer Sadler E.W. whose zeal, energy and initiative helped so much to make the landing possible.

24. It only remains for me to say that I am proud to be the Commanding Officer of such a fine ship's company, everyone of whom pulled their weight to the fullest extent, and had no other thought but to do the job given to them to the utmost of their ability.

I have the honour to be,
Sir,
Your obedient servant,

(Sgd,) J. Fairbairn.

LIEUTENANT COMMANDER.
IN COMMAND.

The Director,
S.A. Naval Forces,
CAPE TOWN.

HYDROGRAPHICAL SURVEY AND NAVIGATIONAL DATA, LANDING
BEACHES, ANCHORAGES, ETC.

A detailed report under this heading will be submitted on the return of Lieutenant B. Grindley. The following, however, is fundamentally correct.

MARION ISLAND

In the outline this island differs extensively from that shown on the chart. There is a deep bight on the southern side of the island, between CAPE HOOKER and CAPE CROZIER. This shore, shown as steep to on the chart, has breaks in the cliff, with the usual boulder strewn beaches, against which a heavy swell breaks unceasingly.

Between CAPE HOOKER and EAST CAPE there is a continuous belt of kelp, which is not shown on the chart. The coastline is similar to that charted.

EAST CAPE appears to extend fully half a mile further to seaward than shown.

About three miles to the northward of EAST CAPE is another fairly sharply defined promontory jutting out into the sea, with a belt of kelp stretching eastwards. It is under the lee of this kelp that we obtained our anchorage.

The landing beach at the "Observation Spot" did not seem to be of white sand, nor did it appear possible to anchor there with BOOT ROCK shut out. The reef shown on the chart extends a mile further to seaward according to our asdic trace; although a heavy northwesterly swell runs between the islands this reef was not observed to break except when approaching from the south. It is covered with kelp and from other observations it is thought that there would be about 15 fathoms of water over it.

From the "observation spot" up to CAPE DAVIS and then southward to CAPE CROZIER the plan conforms very accurately to the coastline.

BOOT ROCK (232 feet high) is very conspicuous and excellent Radar echoes can be obtained from it.

Kelp extends in a practically unbroken line from CAPE HOOKER to the "observation spot". The remainder of the coastline is clear. This kelp is unlike our local Cape kelp having smaller leaves and a much thinner stem. It is easily cut by a sharp knife, but closes in immediately on any cleared passage. It grows in about 15 fathoms, and the belt averages about 50 feet in width, and where there are indentations in the coastline, about 50 - 100 yards from land. It does not follow the coastline which makes one assume that there is a shelf with a depth of approximately 15 fathoms running round the lee of the island.

Large masses of this kelp break away periodically and cause anxiety both from A/S echoes (the echo is very similar to that of rock, and therefore cannot be dismissed lightly) and also from the danger of fouling the main injections. The latter danger would appear to be real only when the ship is very light and rolling heavily. It does, however, act as a

/very useful

very useful breakwater for any landing beaches.

The soundings given on the chart were found to be accurate where tested, but the failure of the echo sounder and more latterly of the A/S Type 147 B (due to heavy weather and subsequent "pounding") did not give the opportunity to confirm the soundings shown fully.

The Eastern and North-Eastern side of the island appears to have a shelf which starts in 70-80 fathoms, 3,000 yards from the shore, decreasing in depth to 35-40 fathoms at 1,500 yards, and then shelving rapidly to 15 fathoms at the kelp line. This shelf consists of rocky bottom, although on one occasion when the anchor was weighed, fine white sand was found on the flukes. It is possible that an anchorage might be obtained in shallower water nearer the beach, but the danger from kelp would increase considerably. With about 50 fathoms of additional cable a ship of this class should be able to ride out most of the weather likely to be experienced during the summer months at this anchorage.

It is quite possible that other suitable anchorages might be obtained between the reef and EAST CAPE, but elsewhere considerable risk would be involved, owing to the rapid and violent fluctuations in the weather.

Landing is at no time easy, but other landing spots than the one used by the ship are possible. The recognised landing as shown on the chart did not appear favourable, especially as obtaining an anchorage was doubtful.

Once inside the kelp there is very little swell, but a surge against the boulders will damage boats unless constant care is exercised.

For our landing, except the initial one for the Flag-hoisting Ceremony, the system used was as follows.

The whaler was anchored just clear of the kelp on the seaward side and a 2 $\frac{1}{2}$ " rope run from there to the beach. It was found necessary to use a wire pennant for the last ten yards, as seals and chafe made short work of the rope.

Crayfish dinghies were used to ferry from the whaler to the shore, using the rope to haul themselves back and forth, thus necessitating only one man in the dinghy and therefore leaving more space for stores.

The motor-boat then ferried stores from the ship to the whaler where they were transferred. This system worked very efficiently, and by the use of an endless whip could probably be speeded up to an even greater extent.

The landing of heavy items meant very hard work on the beach, as they had to be carried over loose round boulders, and then through soggy soil in which the men sank half way up to their knees.

The use of large flat-bottomed barges, either power driven with kelp guards over the screws, or dumb-barges would greatly facilitate the landing of heavy equipment, but the working-party ashore would have to be very quick if a congestion on the beachhead is to be avoided.

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PRINCE EDWARD ISLAND

This island differs largely from the chart in outline. Both SOUTH CAPE and EAST CAPE are far more pronounced than shown.

The kelp is very similar to that at MARION, and conforms generally to the characteristics of that island's.

The only anchorage attempted was off the spot marked "Landing". Approaching this anchorage the water shoaled very rapidly, from 45 fathoms to 16 fathoms within 400 yards. The bottom was sandy.

The shoal marked 13 fathoms on the Eastern side of the island is roughly of the extent shown, and is clearly discernible by its covering of the ubiquitous kelp.

Landing conditions were very similar to those at MARION, but the kelp off the beach was somewhat sparser and on the day on which we anchored, could easily be negotiated by the motor-boat, although this was not attempted. The beach was slightly more steep-to and as the kelp was less, the swell broke on it quite heavily.

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LANDING ON MARION ISLAND

On Sunday the 28th December the ship spent the day cruising on the North Eastern and Eastern shore of the Island. Owing to the "chanelling" effect of the wind (N.W.4-5) between the two islands and the very heavy swell which was the result of the previous three days of heavy Westerly gales, the landing beach shown on the chart was quite impossible - in fact it was dangerous to bring the ship within a mile of the shore.

The kelp-fringed reef running 000° from East Cape was breaking heavily and was in fact found by Asdic to extend approximately one mile further to seaward of its charted position. No sign of human beings or habitations were visible either in the vicinity of this beach or to the Westward towards Boot Rock. The snow line on the island was down to approximately 1,000 feet, but this quickly disappeared as the sun strengthened, and finally only the permanent snow line was visible (approximately 3,000 feet). The mountain itself was covered with cloud (strato cumulus), blown in long streamers to the S.W.

As the charted landing was impossible, and no anchorage could be obtained for the ship, the coast to the Southward of East Cape as far down as Cape Hooker was surveyed for traces of habitation and landings. Unfortunately, at 1400, very violent squalls commenced to blow and ominous clouds banked up in the West, with heavy snow clouds over the island, which, accompanied by a rapidly falling barometer, gave every indication of further Westerly gales, and the ship was run clear of the islands in a S.S.W. Westerly direction for 20 miles and hove to. It would have been hazardous to remain in the near vicinity of the land, as the ship will only heave to in comfort with the wind and sea on the starboard bow.

The wind and sea eased overnight leaving a moderate to heavy swell. Land was made at dawn on the 29th December, and the swell making it impossible to use the recognised landing beach, the motor boat went inshore to the kelp line to reconnoitre possible landing places between Cape Hooker and East Cape. A sudden violent shift of wind from the S.W. necessitated the immediate recall of the motor boat after approximately twenty minutes, difficulty being found in hoisting her in the seaway. By this time it was obvious that no landing could be attempted in that vicinity. The ship then approached the land under the lee of the reef by the Observation Spot and although the Echo Sounder was not working, by constant use of the Kelvin Sounding Machine an anchorage was obtained in 40 fathoms (fine sand and rock).

A possible landing place was observed, and the motor boat again went to the kelp line to reconnoitre. She reported a landing possible, although the beach consisted of small round boulders.

The 16-foot dinghy with the landing party, consisting of P.O. Sadler, A/B Terblanche, Sig. Dally, P.O. Stwd. Schott (as photographer) and myself, was then towed by the motor-boat to the kelp line, and after some difficulty cleared the kelp (about 50 yards wide) and made for the corner of the beach under the lee of a small cliff.

/Landing was

Landing was effected, but three of the party were required to keep the boat from damage. P.O. Schott and I found a suitable spot to build a small cairn, and planted the metal flag, with the brass name plate secured with heavy boulders. A Union Flag was also attached to this staff.

The deed of Sovereignty was read and SIGNED ashore (the extreme cold, owing to a semi-ducking while landing, made my signature rather odd) and placed in its brass cylinder (a 40 m.m. Bofors cartridge case with brass plug and sealed with Elasto Plast). This was buried in a disused penguin burrow at the foot of the cairn, the entrance being sealed with stones. This operation was photographed in movie and still shots.

The only opposition experienced by the landing party was from a colony of rather truculent sea-lions.

The beach had obviously been used before, as large quantities of half-bricks and some steel plates were found.

A short survey of the surrounding country showed that plenty of water was available, the vegetation consisted of rank grass and peaty moss right down to high water mark.

There was no natural timber near the landing beach but drift wood was observed.

Owing to the swell increasing, and the boat becoming difficult to manage, the landing party re-embarked, and after a few hectic moments in clearing the beach and getting through the kelp, was picked up by the motor boat and towed to the ship.

The wind was squally during this operation, whipping the sea up fairly considerably, and a six foot swell in the anchorage did not make conditions any more pleasant.

As the proper landing beach could not be used, all the plans for the landing had to be remade, and the afternoon was spent in preparing for the consolidation of the landing on the 30th December.

The ship remained at anchor overnight, after shifting to a less exposed position closer inshore (37 fathoms - rock and sand). In this anchorage she rode out a force 4 wind. This was accompanied by snow storms which brought the temperature down to 39° F.

At dawn on the 30th December operations commenced by building a small make-shift jetty in order to facilitate landing of the mast and emergency stores.

The system involved was to anchor the whaler off the kelp and using the small dinghies to let a line ashore, so that one man could haul himself back and forth, thereby leaving more space for stores. "Flotanets" were sent ashore to make a floating jetty, preventing boats bumping on the rocks. Whilst these ferrying operations were in progress, the original cairn was further consolidated, so that the Flag would still fly, come what may.

The S.A.E.C., S.A.A.F, and Meteorological Officers were landed.

Shortly after this the weather showed signs of deteriorating, squalls up to 5 coming down from the unprotected side. The motor boat, whilst operating with the whaler, fouled her rudder with kelp, and anchored. Whilst trying to free the

the rudder the anchor cable fouled the propeller. It took two hours to get the motor boat free, two boat anchors being lost in the process. The weather then showing every sign of becoming worse making boat work hazardous, and the ship being in an exposed anchorage on a dead lee shore, the general recall was made. All the shore party returned to the ship by 1530, leaving the line from the kelp to the shore buoyed for further operations.

The following stores were left ashore, covered by a weighted tarpaulin :-

1. Provisions for ten men for twelve days in wooden boxes with sewn canvas covers.
2. Picks, shovels and Tommy bars.
3. One coil of tarred hemp.
4. Six buckets.
5. Aldis lamp and battery.
6. Baulks of timber.

It appears that the "Flotanets", which have been well secured to the land, made a most effective fender for the boats coming alongside.

At about 2300 the wind and sea having increased in the anchorage and squalls up to 7, making the ship sheer badly, the anchor was weighed and the ship went to sea for the night.

No landing attempts on either island could be made the next day, as the anchorage at "ORANGE" was too exposed to the N.W. wind (force 6-7) and "WILLIAM" was shrouded in heavy rain and thick fog alternatively, and with the radar unserviceable, it was impossible to approach even the lee side.

At about 1100 the ship was run clear of the islands for the rest of the day and night.

At 0300 on the 1st January, 1948 the ship returned to "ORANGE" but weather conditions were still too bad to land. An endeavour was made to steam round "WILLIAM" East about, but once clear of the lee of "ORANGE" the wind and sea made further progress impossible, and so the ship was turned. A very heavy swell (approximately 30 feet) made this operation hazardous, and much crockery was broken.

From the state of the sea off the North West corner of "WILLIAM" it would have been impossible to have gone round the other way as it would have then been necessary to run clear away to the S.E. and heave to.

The ship was then placed under the lee of "ORANGE" and commenced steaming back and forth.

At approximately 1500 the weather moderated and at 1630 it was possible to anchor off the cove.

No landing could be attempted that day owing to the swell.

At 0300 on the 2nd January landing attempts were made, but by 0530 the weather had again deteriorated and the boats were recalled. A swell setting into the anchorage made boat work impossible for the rest of the day, and all operations were suspended. The waler was left at her buoy off the kelp. The ship remained at the anchorage in order that, in the event of the swell moderating, further stores for the shore party could be landed, but the opportunity did not occur.

/At 0300 on the 3rd

At 0300 on the 3rd January work was again commenced, and large quantities of stores were landed for the shore party. Captain Anderson went ashore and found a reasonable temporary spot for the bivouac, and the Navigating Officer reconnoitred another landing closer to the waterfall, which may be of value in the future. Landing of stores continued until 2000 when darkness made further work impossible. By this time all the required stores, except the personal gear of the landing party, were ashore. Several officers explored the island. Their observations are submitted separately.

The Occupation Party, with the exception of Lieutenant Grindley, were landed by 0800 on the 4th January and by 1030 were seen to be consolidating their camp. The weather being perfect, at 1130 the ship got under way and proceeded towards "WILLIAM".

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LANDING ON PRINCE EDWARD ISLAND

Sunday 4th January, 1948 gave the first opportunity of landing on the island. The ship left Transvaal Cove at MARION at 1130 and proceeded to Prince Edward.

After some preliminary reconnoitring, much hampered by the failure of the Echo Sounder, the ship was brought into a position very close to a possible landing beach, where water, though not abundant, was present ashore. The sounding gave 16 fathoms with sandy bottom, but this was deemed to be too near the kelp, and the ship was finally brought to anchor approximately one cable further to seaward IN 45 FATHOMS.

Soundings taken with the deep sea lead indicated that a shelf existed within half a mile of the shore at this point, the water shoaling very rapidly to 15 fathoms.

At 1518 the motor boat was lowered and went inshore to find whether the beach was suitable for landing, and if a passage could be found through the kelp. The motor boat returned to the ship at 1527 with a favourable report, and the shore party, consisting of P.O. Sadler, Ldg. Seaman Firmani and I in a crayfish dinghy were towed to the kelp line.

Owing to the surge on the boulder strewn beach, the boat was unable to lie alongside, so I waded ashore with the flag mast and cylinder, ordering the boat to lie off and wait. A suitable place, well above high water and moderately free from sea lions was found, the latter, owing to their inquisitive nature, endeavour to remove any man-made object within their vision.

The Flag was hoisted at 1554, with the sealed brass cylinder containing the Deed of Sovereignty lashed to its base. This Deed was signed ASHORE.

The Flag was the photographed, but rather bad light may make these unsatisfactory. The brass plate bearing the ship's name and date was placed at the foot of the staff, and secured by heavy boulders. It was unfortunate that surf conditions did not allow any more people ashore, but the risk of damaging the dinghy was too great, and I therefore waded back to the boat, which was pulled clear of the kelp and then towed back to the ship by the motor boat.

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GENERAL DESCRIPTION MARION AND PRINCE EDWARD ISLANDS.

This section of the report is from my own observations and those of members of the ship's company who went ashore, details of their observations being taken down immediately on their return to the ship.

MARION ISLAND

1. The island is very similar in shape to that shown on the chart. Hydrographical survey will be dealt with in the special section attached to this report under that heading.

2. At first sight the island appears very bleak and forbidding, the mountain with its snow cap and continuous cover of wind blown cloud being quite an awe-inspiring sight. Closer investigation shows what appears to be quite a green and pleasant land with white beaches, this is most misleading as the green tint is really a treacherous boggy sward, and the white beaches turn out to be the breasts of millions of king penguins.

The coast line consists of sheer cliffs, honeycombed by vast caves beloved by sea lions, and interspersed with rocky coves and beaches, against which the swell beats heavily, except on the North Eastern and Eastern side of the island, where a belt of kelp about 50 yards wide and a hundred yards off shore gives shelter by acting as a natural breakwater. This belt of kelp was never found to be in deeper water than 15 fathoms, in fact the outside edge of the kelp could be termed the 15 fathom line.

3. No land animals were seen on the island. One member of the ship's company thought he saw a rat, but this was not substantiated, although as the island has been previously inhabited, and a ship wrecked on its coast, it is not improbable that rats do exist on the island.

Bird life is extensive, but only one true land bird was seen. Penguins of many species were seen, including the king penguin, the biggest specimen observed being about 3'6" in height. Albatross were numerous, and what appear to be large white stones when viewed from seaward are in reality albatross in their nests. These birds are very big, and when on the ground compare in size with a swan. They have no fear of man, and only show annoyance if approached on a stern bearing.

Penguin nests are numerous, but the egg season was over, and the king penguins had already begun to moult, which gave them an appearance of rather odd-shaped as yet. Gulls are present in enormous numbers, one very dark grey breed being extremely voracious. This gull cannot be termed a true Skua, but its habits are if anything even more disgusting than the Skua gull. On one occasion a king penguin was shepherded off its nest in order that the state of its eggs be seen. In a flash a gull was down on the nest and flew away with an egg in its beak.

These gulls give a good indication of the position of anyone on the island, as they constantly wheel overhead, but I doubt whether a man who injured himself was unable to move would survive their attacks long, as they are quite fearless and actually make feint attacks from behind on people when walking.

/A white breasted

A white breasted species of comorant or Cape Duiker were numerous.

No seals were seen, but sea lions were present in huge numbers, and were found in some cases nearly a mile inland. Near high water and in the numerous caves seal guano was several feet thick.

No fish were seen, nor did experiments with hand grenades bring any to the surface, but the number of sea lions and penguins must indicate the presence of quantities of fish and it can only be that either they shelter in the kelp beds or are further out to sea. Numerous Asdic echoes would point to the latter, substantiated by the fact that penguins and sea lions are found some distance from the land.

It is considered that goats and pigs might survive on the island, and perhaps a very hardy type of cattle such as Highland breeds; donkeys might survive, but whether the boggy terrain would hinder their progress is a matter for conjecture.

4. No shrubs or trees of any type exist on the island. Vegetation consists of rank grass which appears to be similar to our own "Zuurveld" grass, peaty moss and Kergeulen cabbage, the latter is not overabundant.

The soil is very soggy, but appears black and rich, with good drainage and some form of shelter from the wind it should be possible to grow most types of vegetables, if only in the short period of summer.

5. Water is present in abundance and is of excellent quality. A hole dug to a depth of three feet within a mile of the beach will provide water. The question of water supplies both for domestic and hydro-electric purposes will form part of the report by Captain Anderson, S.A.E.C.

6. Weather conditions on the island are very severe. The soil is damp and boggy, and all permanent buildings would have to be raised well above the surface. These buildings would have to be well insulated against cold, as during the twelve days which the ship spent in the vicinity of Marion Island, at the height of summer, the air temperature never reached 50 F, and if this is any criterion, the winter temperature must be well below zero.

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PRINCE EDWARD ISLAND

1. This island is in topography and outline as dissimilar from that shown on the chart as chalk is from cheese. It is regretted that adverse weather conditions did not allow a reasonable survey to be made.

2. In vegetation and fauna the island is similar to MARION, except that a small shrub was observed, and the sea lions were not quite so numerous. King penguins were present in vast numbers, but there are no signs that albatross use the island for breeding purposes.

3. The soil is much drier than that of MARION, but of the same type. Water is not so abundant, but may be a better supply is available in winter.

4. The island shows definite signs of volcanic activity, which may account for the dryness of the soil and the increase in vegetation. Sea and air temperatures rise noticeably when on the lee side of the island.

In the ravine above the landing beach, at a height of about 750 feet above sea level, lava was observed rolling down the slope, and steam issued from the crevices.

In the vicinity of the place marked CAVE BAY on the chart a continuous cloud of steam was observed.

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METEOROLOGICAL DATA

It is assumed that Mr. J.A. King will submit a detailed report of his observations, and this section of my report is culled therefore from personal experience and information contained in the Ship's Log.

Taking the weather in all, it is felt that the bad weather experienced on the day of our arrival (December, 25th) and the four following days, was in all probability a freak patch, as subsequently the weather was not nearly so severe.

It was found generally that the wind commenced to blow hard from the North West immediately the barometer started to fall, and would then shift to the West and moderate when the barometer began to steady. The fall in the pressure is fairly rapid, on one occasion the glass dropped 19 mbs. in 24 hours to the lowest reading experienced (982 mbs.) Whilst the wind is in the N.W. and the West the sky is generally overcast with intermittent showers.

Immediately the wind backs from West to S.W., which happens with the commencement of the barometer to rise, the sky clears. The winds from the S.W. are never so violent as those from the North West.

A definite "channelling" effect is felt when between the islands, for when the clouds are travelling South West a North West wind blows down the channel. These two winds would appear to meet somewhere to the South East of CAPE HOOKE yet no violently confused sea was ever felt in this area.

When the wind from the North is less than force 3, a bank of fog extends round and between the two islands - the bank between the two islands is usually approximately six miles wide. It is always clear under the lee of the islands in any wind.

Weather conditions generally are severe. Violent squalls strike down off the mountain, accompanied by driving snow, sleet and rain; these are accompanied by a marked drop in air temperature. The maximum and minimum air temperatures recorded whilst in the vicinity of the islands (a period of twelve days) were 50°F and 35°F respectively, with a mean temperature of 42.5°F. Sea temperatures remained constant with a mean of 41°F. Maximum recorded being 43°F and minimum 38°F.

Sea and swell conditions are in accordance with the wind, but a very heavy, and often dangerous, swell is always evident when approaching the islands from the North West. The maximum height of swell recorded was 35 feet.

PERSONNEL

The Ship's company stood the strain admirably. When volunteers were called for for the shore party there was a 93% response.

Conditions were far from ideal, but when it was possible to work the boats the ship's company worked without respite. The longest days work without receiving a proper hot meal was 17½ hours (from 0300 to 2030).

It is difficult to single out any man for praise, beyond the others, but PO Sadler and Cook van Blerk contributed more than their fair share to the success of the enterprise.

MEDICAL

Apart from cuts and bruises sustained whilst working or in bad weather at sea, and one rating who had an abscess in his ear before leaving, the health of the ship's company was excellent. I would stress, however, that the supply of additional clothing and the fact that the scale of rations had to be increased by 50% in order to cope with the enormous appetites engendered by the cold weather and hard manual labour, may have had some bearing on this.

VICTUALLING

As mentioned in the preceeding paragraph, the ration scale had to be increased by 50% in the cold latitude.

Fresh vegetables kept very well due to the rapid fall in the air temperature within 48 hours of leaving Cape Town. No vegetables were kept in the cool room. Potatoes should be removed from their bags and left uncovered in the locker, and allowed plenty of ventilation. This prevents them from sprouting. Lettuce, tomatoes, squash and pumpkin were all stowed on deck. A very much larger supply of vegetables than the usual scale is recommended.

Tinned vegetables were a great asset. Apart from their use in the normal manner they formed an excellent stock for soup, thereby saving much time and labour as they are already cleaned and diced.

After 18 days at sea it was only necessary to dump 50 lbs. of fresh meat. Owing to lack of hanging space in the cold room this meat had to be left on deck, where it could not get sufficient ventilation. It is intended to fit two more hanging bars and with the necessary hooks in the cold room.

Some of the fish supplied kept excellently and was used after 18 days. This fish was "yellow-tail" a firm-fleshed fish which was received on board in a frozen state. The remainder of the fish was chilled stockfish - this was, as usual, immediately dumped - being quite uneatable. At the best of times stockfish resembles cottonwool in taste, and the standard supplied to the ships is simply deplorable.

The baking of bread, although successfully carried out during the trip, meant a lot of extra work. The ovens being required for the normal day's cooking. All baking had to be done at night. The heavy pitching of the ship often made the dough go flat and this caused much annoyance to the Cook responsible. Notwithstanding the difficulty, 200 4-lb. loaves were baked every third day.

Unsweetened condensed milk would be preferable to the sweetened variety now supplied.

Generally speaking, the standard of food was excellent, but the amounts consumed were far in excess of what was thought sufficient.

ORDERS FOR LANDING PARTY

LIEUTENANT B. GRINDLEY S.A.N.F.

1. You are in command of the Landing Party. Should any mishap befall you, the next Senior Member of the party, et seq., will take command.
2. You should make as comfortable a bivouac as possible for your party in the most suitable position near the landing beach.
3. Should any foreign power land on the island whilst you are there, you are to stress that the island has already been annexed by the Union of South Africa, but you are to avoid any incident.
4. You are to endeavour to survey possible landing beaches, with special reference as to whether it would be possible to improve them by the removal of stones and kelp and by the construction of a jetty or breakwater.
5. Captain Anderson, S.A.E.C. will survey the island in accordance with his instructions, and you should render him any assistance within your power.
6. The Deed of Sovereignty for Prince Edward Island will be taken ashore by you should weather preclude the possibility of landing on the island itself before the ship sails.
7. Dry rations and stores for two months have been landed.
8. It is expected that H.M.S.A.S. "Natal" will arrive on or about the 11/12th of January, 1948. You should render her Commanding Officer any assistance within your power.
9. Your party will consist of the following :-

Captain	Anderson S.A.E.C. (2nd in Command).
Captain	Berelowitz, S.A.M.C.
Sub.Lieut.	A.C. Mc Murray S.A.N.F.
P.O. Steward	Schott
P.O. (S.B.A.)	Sorenson
Idg. Seaman	Maré
A/B	Mc Cann
A/B	Lewis
A/B	Bold
A/B (Wireman)	Rentzke
A/B	Stander
O/Sea	Erasmus
Stoker	van Niekerk T.F.
10. As a personal request please avoid any unnecessary bloodshed or cruelty to animals or birds.
11. No man is to go on any expedition further than 250 yards from the camp alone.

(SIGNED) J. FAIRBAIRN
.....
LIEUTENANT COMMANDER
IN COMMAND.

H.M.S.A.S. "TRANSVAAL".
at MARION ISLAND.

4th January, 1948.

ENGINEERING DATA

1. The main and auxiliary machinery of the ship ran magnificently, and great credit is due to the Engineer Officer and his engine room staff for this.
2. During the whole of the period of 20 days steam was on the main engines, and on four occasions only was it necessary to slow down or stop, two being for minor mechanical adjustments and two owing to kelp blocking the filters in the main injections.
3. The passage down was made at 150 revolutions, which gave approximately 15 knots, on the return when the ship's bottom was much cleaner owing to the effect of the cold water on the weed and barnacles, these revolutions gave 16 knots.
4. Total oil fuel consumed was 578 tons. At 150 revolutions the consumption was 2.5 tons per hour, this was uneconomical and it was found that 120 revolutions, which should give a speed of 12.5 knots with the ship three months out of dock, was the most economical speed, the consumption being 1.25 tons per hour.
5. The very cold water made evaporation for fresh water purposes easy, and eight tons of oil fuel produced 30 tons of water.
6. The cold weather experienced made fuel consumption high even while at anchor, loss of heat due to radiation and condensation being the cause.
7. The endurance of the ship was lower than first estimated, but this was due to lack of knowledge of local conditions, which meant additional steaming time, the fact that speed was of great importance on the passage down, and that a large amount of time was spent under weigh in reconnoitering and surveying.
8. Notwithstanding the fact that at first the bathrooms were only open for one hour in the mornings and evenings, and latterly for only half-an-hour, fresh water consumption averaged 6 tons a day. This was high, and in future even more stringent restrictions on the use of water will be applied.

COMMUNICATIONS

With reference to the previous addendum on this subject, a more detailed report is submitted.

1. COMMUNICATION WITH WATERKLOOF S.A.A.F. W/T STATION

Communication was established before sailing on 9000 Kc/s, strength 5 was obtained in both directions but signals on this frequency began to fade in approximately 360S 230E. Frequency was changed to 13600 Kc/s and this was maintained throughout. 9000 Kc/s was subsequently tried at a later date but still proved to be unsatisfactory.

Signal strength of Waterkloof (ZRB) averaged 3 but was, at times, unreadable at strength 1. Transvaal (DRC) was being received by ZRB at between strength 2 and 4 depending, apparently, on the efficiency of the different operators on watch.

The operators at Waterkloof did not seem to appreciate the gravity of the operation. Their operating was generally poor and they were in no hurry to receive any signals bearing priority other than O-U (Most Immediate) and invariably asked for the number of groups first, and when these were in the region of 200 made us wait until they had had their meals, often closing down for as long as an hour for this purpose.

WEATHER REPORTS

Weather Reports were received on 13605 Kc/s at all times. Signal strength was 5 throughout and no difficulty at all was experienced in their reception.

2. OTHER COMMUNICATION

Communication with "Unitie" was not maintained after sailing, it was re-established on "Natal's" sailing and then maintained until arrival. While in communication, strength of signals was good at all times except in the recognised "Blind Spot" off the Agulhas Bank.

Weather reports from Slangkop were received on 8 and 12 Mc/s, both at strength 5 but the former was read with difficulty owing to the great amount of interference.

3. MISCELLANEOUS

Reception of commercial broadcasting was good during early morning and late evening. The B.B.C. African Service, General Overseas Service, Cape Town and Johannesburg "B" programmes, and Lourenco Marques were all received very well.

Amateurs throughout the world were received at a good strength, Johannesburg being at strength 5 but no Cape Town stations were heard.

4. NOTE

Only when the ship laid off the recognised landing beach were atmospherics encountered to such an extent to make reception difficult. At all other points round "William" and "Orange" static interference was only moderate, bad interference only being experienced during rain and snow squalls.

5. CODING AND CYPHERING

All coding and cyphering was done in War Office Cypher. This proved to be more cumbersome than Naval Code and also not so quick in recoding. Many words had to be spelt as they were not included in the vocabulary these words included the following which were often used, DSANF, SANF, KNOTS, SWELL,

SWELL, DINGHY, WILLIAM, ORANGE. One signal was tried as a matter of interest, in War Office Cypher it took 200 groups yet in Naval Code in only amounted to 47 groups.