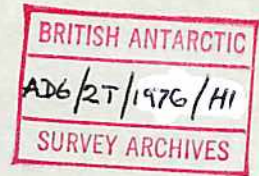


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BRITISH ANTARCTIC SURVEY

REPORT ON WIND DAMAGE TO TENT AND SUBSEQUENT LOSS
OF EQUIPMENT SUFFERED BY GEOLOGY UNIT DELTA
ON ROTHSCHILD ISLAND, NOVEMBER 1976

BY

B.W.CARE

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Report on wind damage to tent and subsequent loss
of equipment suffered by geology unit Delta on
Rothschild Island, November 1976

(Or the demise of tent 73-F)

by

B.W.CARE

This is an account of the events preceding and immediately following the incident in which the pyramid tent of geology unit Delta (B.W. Carr-geologist, R. Davies-G.A.) was blown down during a period of high winds and several items of equipment subsequently lost.

DIARY

Wed. 24th. November

Arrived at site ($69^{\circ} 35' S$, $72^{\circ} 52' W$) during afternoon, after having completed work from previous campsite in dingle weather in the morning, and set up camp near to lower, south-eastern end (950ft. AMSL) of NW-SE pass separating the western end of Enigma Peak range from the un-named mountain ridge to the west, and in a central position. (Diagram 1). Surfaces were 2 - 3 inches soft on a hard crust with no evidence of any prevailing wind directions so pitched tent facing downhill to the south.

Thurs. 25th.

Fine, clear morning and worked several stations before cloud moving in from north all morning, descended with intermittent snow showers forcing us to return to camp around 2pm. Low cloud coming and going with constant altostratus ceiling of 6,000ft. and poor contrast, but VP-PAF flew in at 11.30pm. with extra food and fuel and flew out four boxes of geological specimens.

Fri. 26th.

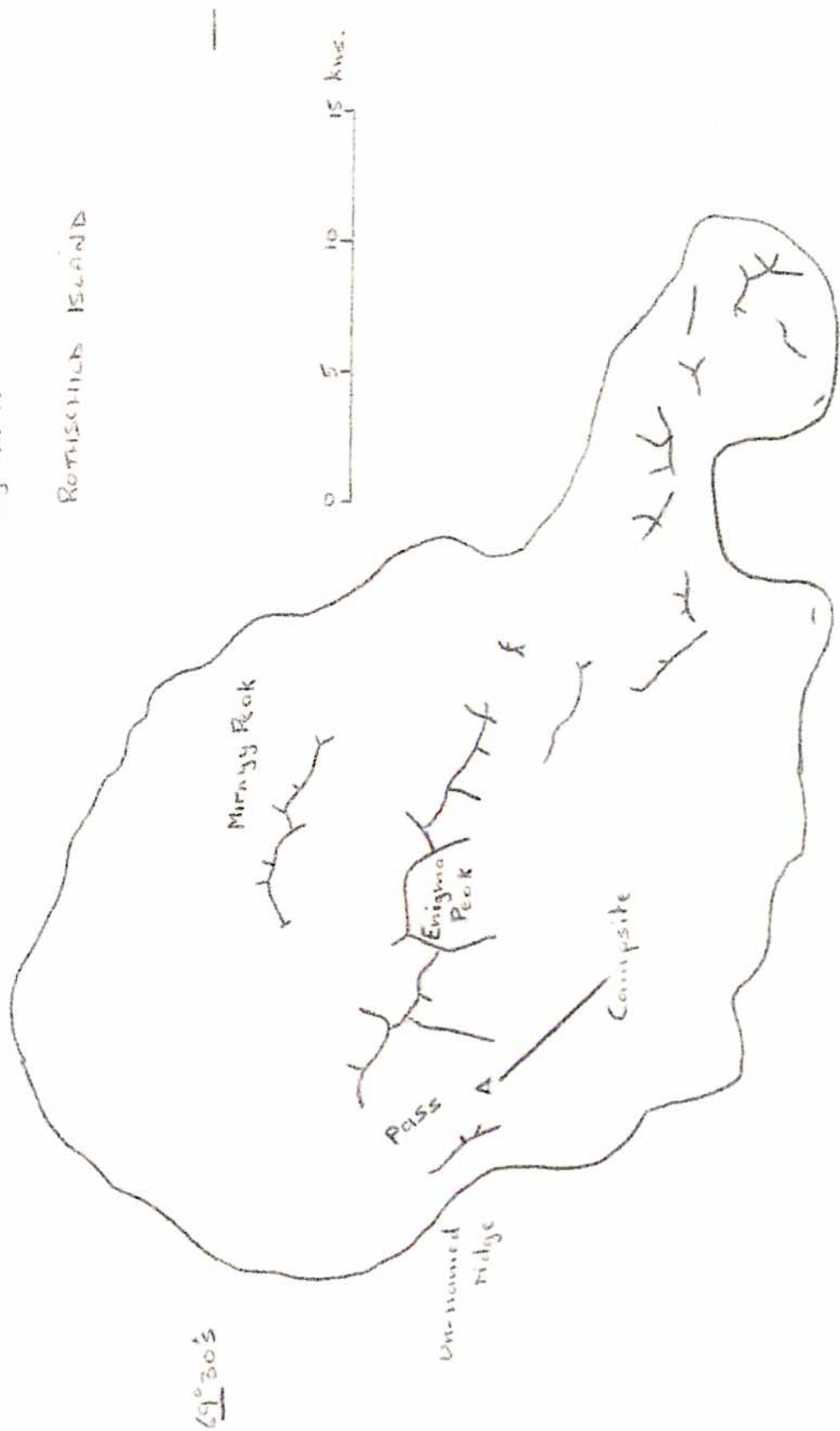
Lie-up day with low cloud, snow and drift, and wind gusting up to 50 knots from the SW.

Sat. 27th.

Previous day's weather cleared by 11am. enabling remaining geology from this campsite to be completed. Broken stratocumulus followed by thicker altostratus moving in during afternoon and wind starting to gust in evening.

Diagram 1.

ROMSCHILD ISLAND



$69^{\circ}30'S$

$71^{\circ}00'W$

$70^{\circ}30'W$

$70^{\circ}00'W$

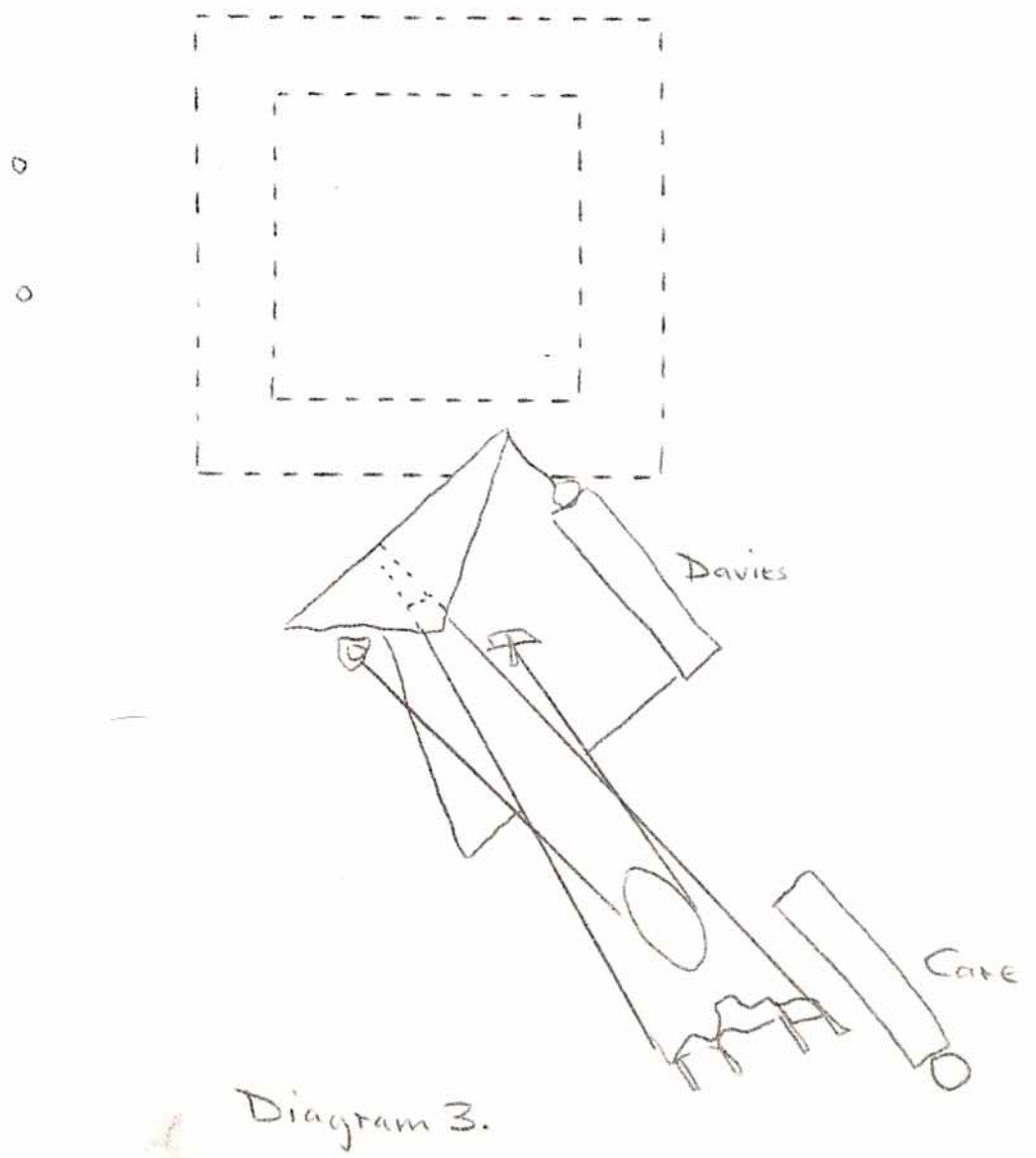
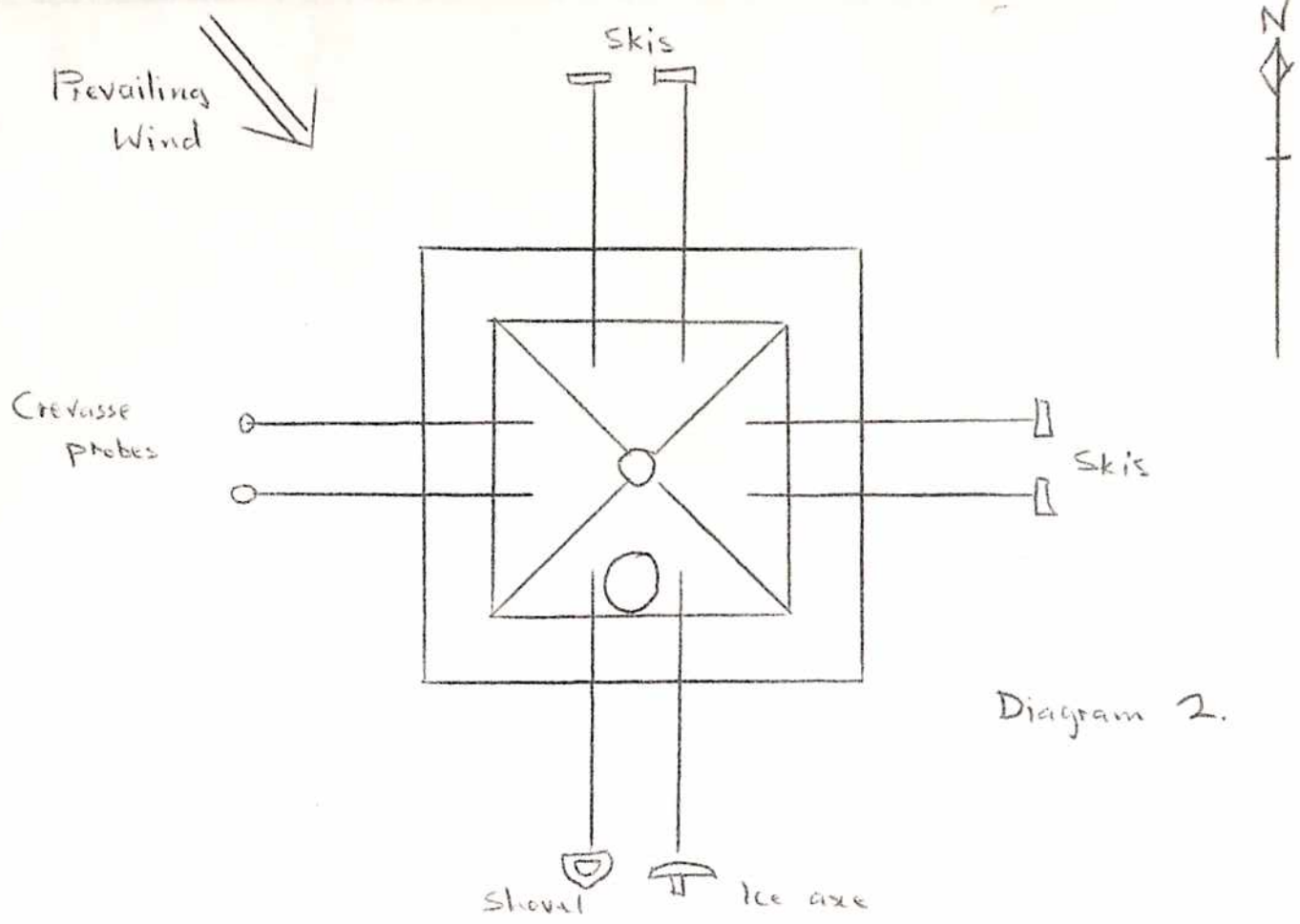
$69^{\circ}45'S$

Sun. 28th.

Shortly after midnight a strong gust rocked the tent, stronger than any in the previous two hours during which time the wind had been steadily increasing, and the pressure wave blew open the tent door which had been tied. Being still up and dressed I ventured outside during a lull and checked the guys and pickets. (diagram 2). All pickets appeared firm especially the back two skis and the guys all tight, and there was plenty of weight on the back and side valences - 12 full jerries plus 2 unopened manfood boxes. We then retired for the night with wind varying from periods of flat calm to gusts of 60 knots with heavy ground drift, and directed from the western mountain range onto the NW corner of the tent.

At 1.08am. (the time the alarm clock stopped) a gust in the region of 100 knots must have hit the tent as both myself and Rob found ourselves still in our sleeping bags but outside, about 12 feet downwind of our site, with tent and equipment lying around us (diagram 3). The tent was lying with the apex pointing upwind and held by the front shovel and ice-axe pickets only. The four ski pickets had been uprooted and were lying downwind, but the two crevasse probes were still in position though slanting downwind. From the wedge-shaped hole left by the back corner ski (NW) it was obvious that this was the one that had given first when the gust hit the tent and had caused the back corner pole (NW) to be blown underneath the tent bringing the whole structure down. I had been rolled over once or twice and ended up facing upwind whilst Rob had virtually slid along on the ground sheet which had become impaled on the crown of the tent.

Fortunately the wind was only gusting and not continuous and we were both able in the calm spells to dress with what clothes we could find and secure our sleeping bags to one of the skidoos before throwing any boxes and items that came to hand into hastily-



dug snow holes. It was here that we realized that my lilo and 'P' bag complete with sarski sac and spare clothing had been blown away.

During this time the wind continued to gust up to 70 knots (it was a fairly warm wind so temperatures probably never dropped below -5 C) making it impossible to stand up. Having secured or stowed away all loose items, we managed to roll up the tent and lash it to one of the sledges and then set about digging a 5ft.-deep snow hole in the right angle formed by a skidoo and sledge.

It was Jan. when, having placed the radio box in the snow hole with us (the Squalocal had remained inside the tent and in working order) and laid out the spare aerial, we settled down fully clothed inside our sleeping bags on top of sheepskins inside Rob's sarski sac to a cramped and damp, but fairly comfortable and warm night, nourished in between the odd minutes of sleep by a flask of warm lemon and packets of Opal Fruits. It should be mentioned here that the sarski sac (Ultimate Equipment Limited - made of lightweight nylon) was of a bad design with the pocket enclosing the feet on the bottom side of the sac making it impossible to close the entrance - in fact at Sam. there was drift inside the sac reaching frds. the way up our sleeping bags.

We informed base of our plight on the Sam. weather sched. and kept hourly contact throughout the day giving the latest weather and an increasing list of items we found to be missing. During the course of the morning and afternoon the cloud cover began breaking up and the ground drifting ceased (there being no more loose snow left on the glazed surfaces), although the wind was still blowing up to 50 knots and thick cloud pouring off the peaks on both sides of the pass. We were able in the lulls between gusts to re-erect the pyramid tent using a skidoo to anchor the back two guys and a rope looped over the crown of the tent. We had to anchor the skidoo itself to deadmen as it was rocking ominously in some of

the gusts.

The tent outer was undamaged, but both back corners of the inner tent had been torn away from the poles for a length of 3ft. and one corner had completely ripped open exposing the outer. In addition the two back corner tent poles were considerably bent, the one which bore the brunt of the gust having its centre bowed in about 8ins.

Having satisfied ourselves that the tent was secured as best as we could make it we moved inside with the minimum of equipment, had a hot meal and began the lengthy task of drying-out sheepskins, sleeping bags and clothing. We also enlarged the snow hole into a cave.

At 10pm. VP-PAP unexpectedly flew over us and the pilot informed us that he could not land by the campsite as he had experienced severe buffeting but that he would attempt to land approximately 2mils. to the NW at the northern end of the pass where the wind seemed less strong. By 11pm. we had de-iced a skidoo and sledge, rendezvoused with the plane and arrived back at the tent with new pyramid and 'P' bag containing requested items. As the wind was still gusting 50 knots and shaking the tent we spent another sleepless night, fully dressed, with everything packed up ready for a quick exit, except the spare primus and sufficient apparatus for making frequent beverages.

Mon. 29th.

Sam. finally arrived with the weather rapidly brightening but the wind continuing to gust up to 40 knots. However the gusts lessened during the morning and afternoon and we were both very relieved to depart at 4.30pm. for a new campsite and our first real sleep for 64 hours.

Final list of equipment lost and damaged. (not including personal items such as clothing, letters, books, etc.)

Lost

- 1 'P' bag
- 1 Edarski sac
- 1 Lilo
- 1 8-inch diameter billy can
- 1 Primus spanner

Damaged

- Pyramid tent - inner torn away from lower part of back two poles
 - two back poles considerably bowed-in
 - (- large porridge stain on outer near to crown)
- 6-inch tear in groundsheet
- Internal dipole lead torn out of aerial terminal block

Conclusion

We were both very lucky we sustained no injuries and only lost the small amount of equipment we did - the saving factor being the gusting and not continuous nature of the wind. As we were the first unit to travel on Rothschild Island we obviously had no inkling of windy areas, although in retrospect the huge windscoops at the base of the east side of the western un-named range were ominous. The picketing arrangement of the tent we regarded as entirely sufficient, bar using a skidoo, and the tent had suffered no ill effects from the 50-knot gusts it had received two days before the incident - it was just bad luck we happened to be hit by that exceptional gust.

On the safety/comfort aspect we would certainly have found it useful to have had a third edarski sac kept as a spare in a sledge bag (cf. spare lilo) and preferably all carried to have the "feet pocket" on the top side of the sac so the weight keeps the entrance closed preventing drift from collecting inside (as with the heavier duty, green, TMC type).

The strongest and most persistent winds on the Island we found, without exception, to blow from the northwest quadrant unhindered off the Bellinghausen Sea. These have resulted in the

strong NW-SE linearity of windtails stretching from all the mountains and ridges. Because of this and the obvious funnelling effect on these winds of any NW-SE orientated pass we do not advise using the pass where the incident occurred as a campsite, particularly as it is bordered by two of the highest peaks on the island, which generate their own wind and cloud systems.

B. Care. 30.1.77