Antarctic Expedition: The Story Continues

Mission: Build the best puzzle

So there we were, excited to the point of bursting into flames (a feat understandably difficult in the cold of the continent) to finally take that final step onto the mythical land before us. The German icebreaker *'Polarstern'* or *'Polar Star'* happened to be in the vicinity as we arrived at the ice shelf near the German base of Neumeyer.

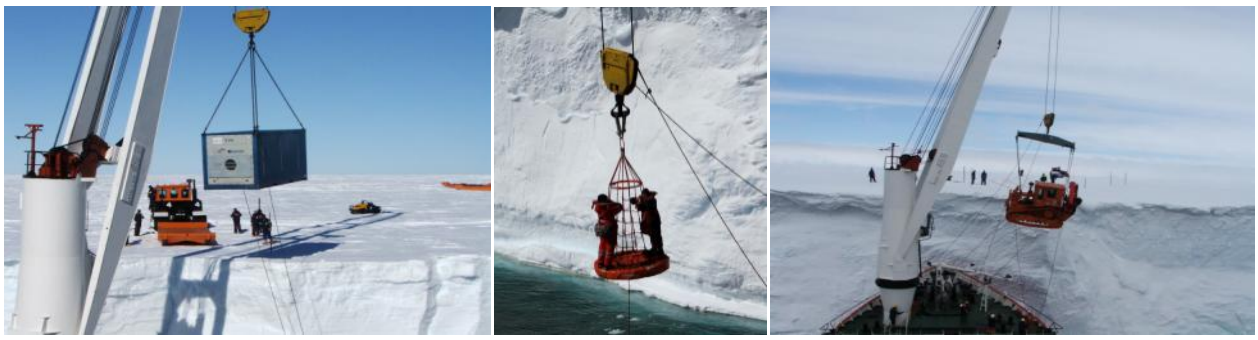
Figure 1: The 'Polarstern'

Figure 2: The 'Polarstern' at the ice shelf by Neumeyer.

This proved to be a happy occasion as the SA Agulhas is not an icebreaker but rather an ice strengthened ship – she has no problem pushing through a couple of meters of pack or sea ice but cannot break the ice herself. Hence the Polarstern, excited to venture onto another vessel in the vastness of the Southern Ocean, provided this important task and broke the bay ice up for us in order for us to continue our journey to the shelf. The ice shelf loomed ahead, bay ice floated all around us and everyone started to look the same bundled up in their respective issued all-weather gear. Excitement mounted when offloading started on the 21st of December, perturbation spread when the sea's motion interrupted this activity until the 23rd and finally despair set in when we were **STILL** waiting to depart the SA Agulhas for SANAE on the 29th, 10 days **AFTER** arriving at the shelf. Yes, the (unofficial) motto of the South African Antarctic expedition is not *'Hurry up and wait'* without a reason. After a record journey south to the shelf taking only 11 days **ANOTHER** 11 days would pass before the weather and sea would permit us to actually make our way to land-based SANAE. '*Hurry up and wait'* indeed!

Figures 3-6: Sea and pack ice on Boxing Day.

But the wait was not all boredom and dreariness. On Boxing Day we rose to an eerily quiet sea. An utter lack of wind and any sort of discernable wave activity transformed the ocean into a shining mirror, ensuring this breathtakingly beautiful sight shall remain burned into our minds forever. The offloading efforts also proved exhilarating and amusing. We, as passengers, were of course not allowed to participate in this dangerous activity but the offloading efforts proved at least entertaining. When offloading was in progress we would slowly wander upstairs onto the Monkey Deck, park our butts on the best available spot and observe the crew in action. There are few sights that can compare to Ski-Doos, bulldozers, containers weighing tons and even people in 'safety' baskets being lifted up onto the 30 meter high ice shelf by a single crane that, when in operation, would move the entire ship port or starboard, depending on which way it was swinging at the time…



Figures 7-9: Offloading at the ice shelf.

But finally the day arrived after excitement had been mounting the previous days. The news from SANAE was that the weather was good and the ocean was on its best behaviour. So **FINALLY** the weather was found safe enough to not only leave the ship from but also arrive at SANAE in. And not a day too soon as everyone (who was to go to SANAE for the next month) was starting to get a bit grimy and smelly (and not due to a lack of willingness to take showers). You see, the crew with the exception of the caterpillar crew (that drags the luggage to the base) is taxied to SANAE in helicopters. As these are very expensive to operate (in the vicinity of R10 000 per half hour) they are packed with people and **NOT** luggage when in operation. In other words, when offloading started on the 21st of December our entire luggage, with the exception of a few items of clothing (spare thermals, underwear, basic toiletries) was taken off the ship and put on the Cat-Train. And after 11 days of having to wash your underwear by hand every night we started to feel decidedly skanky, looking forward to our departure from the ship. So there we were, pining to go when deliverance finally came and we were off, squashed into the helicopters like sardines wearing our full survival gear (thermals, bini, balaclava, snow goggles, gloves, freezer gloves, pigskins, shirt and trousers, thermal jacket, all-weather outer jacket and dungarees, sunglasses, winter socks, the must-have slab of survival chocolate [It is compulsory to carry around a slab of chocolate with you if you are outside – the high-sugar-content gives a boost of energy if you get stranded in the cold], a sleeping bag and the ever-faithful Sorrels [boots]) but not minding because **WE WERE ON OUR WAY!**

SANAE IV is one of the most advanced Antarctic bases in the word, an engineering feat (the Brits are building their new base using the South African engineering firm that built SANAE) and we would soon see why. 178km inland, it is perched on the western edge of the Vesleskarvet nunatak (rocky outcrop) that, although having a height of app. 900m only rises above the surrounding ice plain by 200m. The approach is from the West, providing a breathtaking view of the base and the surrounding ice plain.

Figures 10-12: SANAE from the 'smelly' (10); from the Northern Buttress (11); from the air (12) approaching from the East.

Once safely landed we went on our orientation tour of first the base itself and then the outside areas, the ice road, scientific zones and the *'smelly'*, the ice smelter that provides the base with water. With the vast expanse of ice around us it came as a surprise that we had to *'make'* our own water. This involves shovelling snow into an underground chamber. In this chamber the ice would be sprinkled with water of

about 4°C. The melted water would then be funnelled into another chamber where it would get heated up and pumped up to the base. Filling the smelter with snow became part of the daily duties (which included cleaning the base, disposing of waste *etc.*) and for this reason a roster was put up with **EVERY** crewmember having duties *app.* every 3 or 4 days (it's a **BIG** base). And although *'smelly'* duty is painstaking work it was also the most fun, with the poor sods whose duty it was for that day always ending up with at least double their number in willing helpers. After all, *'smelly'* duty provided one of the few opportunities for those whose work kept them inside the base to actually venture outside. As part of the geomorphology team I was classed as a *'field scientist' i.e.* helicopter and Ski-Doo rides to far-flung places and hours of trudging over hazardous terrain were part of my job description. However, of the *app.* 80-man crew only 4 of us (the 3 members of my team and 1 historian whose job it was to observe, and who turned out to be an awesome field assistant) were field scientists. In other words, we were the **ONLY** ones allowed to leave the safety zone around the base, making us the envy of virtually everyone there ☺.

Figure 13: Smelly duty: waiting for the dozer to push snow toward the smelter.

When we got to base we were greeted with the most gorgeous sunshine, virtually no wind and a balmy -2°C so we promptly changed from our full survival gear into more comfortable shorts, t-shirts, a hat and had a braai. The tradition of the SA Agulhas chef to get everyone as chubby as possible was happily continued during our stay at SANAE, which makes one wonder whether or not added fat cells really do make you float on the ocean (or roll over the snow) easier...The regular braais proved to be a great occasion for everyone to prove their braaing prowess – be it the helicopter crew serving up a mouth-watering snoek braai, S49 fattening everyone up with ribs, chops, steak, boerewors and braai broodjies or S50 impressing with their garlic breads, salads and the usual smorgasbord of meaty wonders. As a counterpoint to the braais the two resident chefs delighted the Take-Over crew with a wide selection of goodies – be it apple crumble for tea, delightful curries (you have to mask the taste of one-year-old meat somehow) for dinner or crumpets for breakfast. On New Year Eve (and many other days) we were even provided with a selection of bar snacks and yes, there is indeed a bar on base. The '*Sastrugi Inn'* (a sastrugi is a snow dune – the Antarctic is a desert after all) with the adjacent games room (equipped with a pool table, table tennis and darts board) provided hours of enjoyment and relaxation. S49 were kind enough to provide some of their beverages to the crew, ensuring happiness all way round. And here the fact that there were only few women on base (6 for the first two weeks, only 5 afterwards) proved to be a

blessing in disguise: without fail, the moment one of us ladies placed a foot in the bar we would be presented with a glass of wine. **HURRAY!** The games room also provided a bit of a conundrum. The unspoken rule (and tradition) on base is if you get whitewashed *i.e.* get thoroughly beaten in any game, *e.g.* not scoring a single point in table tennis, you are to strip naked and sprint to the Caterpillars (parked at the edge of the cliff outside) and back. Not something you want to do when you're a girl on a base with about 80 other guys… But needless to say the guys proved themselves to be perfect gentlemen, always allowing the ladies to score at least one point in whichever game they were playing at the time (or maybe we ladies just have skills….) and potential embarrassment (for us, at least) was avoided every time! And then there was the sauna, gym, library and movie theatre to entertain us during periods of bad weather, which showed its face eventually.

Figure 14: View from the lab after the storm.

Figure 15: The first day of the storm: visibility still good.

After about a week of wonderful sunshine and gathering a bunch of data the bad news came in: 'A weather front approaching. Crew to remain base-bound.' Not what you want to hear! The weather came in, the wind picked up, visibility became increasingly poorer, the doors were locked and even smelly duty was suspended. Our first (and only) bad weather event came with a bang, lasted a whole week and, to the detriment of my data gathering activities, brought a whole bunch of snow with it. To say that it is a challenge to measure rocks and collect usable data when everything is buried under snow and ice is a bit of an understatement. But at least the week confined indoors brought sleep, watching movies, chilling in the bar and playing *'adventure puzzling'*. Yup, being cooped up inside can make you a tad crazy! Adventure puzzling required a GoPro trained at a puzzle as it was being built and taking pictures every 10 seconds or so. Added to that we needed a willing puzzle crew. Needless to say it was fun and the Stellenbosch boys proved themselves to be good sports and masters at puzzling (at the conclusion of the puzzling anyway).

Figure 16: Adventure puzzling.

Figure 17: The wind turbine.

It was, however, not always smooth sailing for the Stellenbosch boys, who with the installation of two foundations for wind turbines had a run of bad luck. A crucial piece of the compressor they needed to complete their work was found to never having been offloaded the SA Agulhas. By the time they noticed, on the SA Agulhas on its way to South Georgia and other fantastical places. That meant that they would only have access to it once she was back at the ice shelf, a few days before we were due to depart SANAE. Chaos ensued, other bases such as Neumeyer called to request a compressor, frantic phone calls made to Cape Town all to no avail. So they guys, not to be daunted, progressed by attacking the permafrost with picks and shovels – a feat not to be underestimated. Permafrost is by definition frozen ground and it is by no means easy to dig into this extremely hard layer. But they persevered. By the time we departed SANAE, after numerous sleepless nights for them, they had successfully put in two foundations for new wind turbines to be put up this year during the Take-Over.

Figure 18: View from SANAE.

TO BE CONTINUED…

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