

## **Ski South Pole Last Degree Expedition**

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*Sledging across the Polar Plateau near the South Pole, Antarctica*

### **An account of a 5 man, 'Last Degree' sledging trip to the South Pole in January 2010**

50,10,50,10,50,10,50,10....

89 degrees, 52 minutes South. The Pole has been sighted!

I am navigating a straight course. Skiing a fine line between concentration on the GPS, the Sastrugi it directs me towards and intoxication by the overwhelming empty beauty of the Polar Plateau.

Every unique Sastrugi form I'm sighting on immediately gets a name. Moby Dick, The Wild Surf, Orion Space and the latest one, Cindy Crawford's mole. A billion pristine snow crystals sparkle under the 24-hour sun. Brighter than any diamond today. A Catalan climber and veteran of many Paris – Dakar rallies I had been out here with couldn't believe how similar the feel of this desert was to the Sahara (despite the temperature difference!). To me it was more reminiscent of the sea. Huge skies towering above gently curving horizons and an apparently flat sea / snow scape that was in fact, never flat. The light and shadow played with sastrugi forms like white horses cresting in a force 5.

Too soon, this time, 50 minutes is up. Back to the routine, energy bars, drink, kit-faff, get ready for the next 50. As we approach the South Pole base the next sighting point is a distant flag. A black dot making following our course easy and the magic of coasting through the sastrugi is lost. The contemplation between relief and pleasure at safely reaching the South Pole and sadness at leaving the hauntingly wild Polar Plateau has begun....

## Last Degree - Facts & Figures



*Arrow straight tracks help minimise extra distance creeping in through navigational errors...and give a sense of aesthetic pleasure.*

- The last degree refers to the 60 nautical miles between 89 and 90 degrees South. This is 69 statute miles or 111 Km.
- Teams are dropped off at around 89 degrees South and around 90 degrees West which is at an elevation of 2780m, hence the need for a slow start to the sledge hauling and camp tasks to allow the body sufficient acclimatisation time.
- The Pole itself is at 2835m. This is not the high point of the Polar Plateau which reaches around 4000m further East

- The first successful team to reach the South Pole were the Norwegians led by Roald Amundsen who arrived on December 14th 1911, 35 days ahead of the British team led by Robert Scott.
- These days a variety of teams make different journeys from various starting points around the continent every summer season (November - January). The shortest ski option is the 'Last Degree'.
- Most teams take 6-9 days to make the Last Degree journey averaging 7-8 hours a day (with 7-8 short breaks) once they are acclimatised.
- The temperature at the South Pole when we arrived in mid-January was -27C with 5-10 knot winds.
- From the South Pole a 3.5-hour flight in a DC-3 Basler takes you back the 600 Miles to Patriot Hills and then onwards to Southern Chile via a 4-hour flight in a Russian Ilyushin 76.

### Training & Approach to the Last Degree



*Training sledging journey around the Patriot Hills before heading to the deep South of the Polar Plateau*

It is crucial to make sure team members and equipment are ready for the tough sledging journey ahead as once dropped off at 89 South the only options are to ski to the South Pole or call for an extremely expensive rescue flight.

With this in mind, a lot of time is spent preparing food and sorting kit at Patriot Hills prior to departure. At least one overnight sledging and camping trip is made to make sure all

aspects of equipment are functioning properly from ski bindings to stoves to face masks. We calculated on around 5000 calories per person per day and around 200mls of white gas per person per day for the MSR Whisperlite stoves.

Snow conditions at Patriot Hills at around 80 South are much more conducive to gliding sledges than high on the polar plateau where every inch can be hard won in the soft snow. A good level of fitness and mental toughness is required as well as efficiency and organisational skill looking after yourself and kit. Ensuring a complete cover of skin at all times is important in not getting fried by the sun or blasted by the wind-chill. Some folk tend to return from the South Pole with disintegrating faces but this can be avoided with a suitable goggles / face mask combination (usually sewn together).

Once everyone is happy to proceed to the deep South a 4.5-hour Twin Otter flight via a re-fueling stop at Thiels Mountains is made.

The Polar Plateau is a strikingly beautiful if totally wild and lonely environment to suddenly arrive in.

### **Acclimatising**



*First steps and catching our breath at 89 South after the 600-mile Twin Otter journey gives us a 20C temperature decrease and 2000m elevation increase*

At a starting altitude of around 2800m the temptation to travel too much too soon must be resisted (unless folk are already well acclimatised) and young, fit teams must pay particular attention to this in the drive to get going and put in some miles towards the Pole.

After being dropped off at 88 degrees 59 minutes South we catch our breath at the increase in altitude of 2000m and decrease in temperature of 20C. We cover less than a mile in around 40 mins at a very relaxed pace and then slowly set about the tasks of setting camp up.

Next day we cover 4.6 nautical miles in 4 hours and after another relaxed evening, large meal and good night's sleep we are ready to start increasing the mileage. All polar travel teams will tell you that you get more efficient as the trip goes on and familiarity is gained with the equipment and each team members specific duties.

Getting into this routine is part of becoming efficient and making sure tents are put, snow is melted, dinner is cooked with a minimum of fuss and plenty of time is left for relaxing, sleeping and sledging!

### The Routine

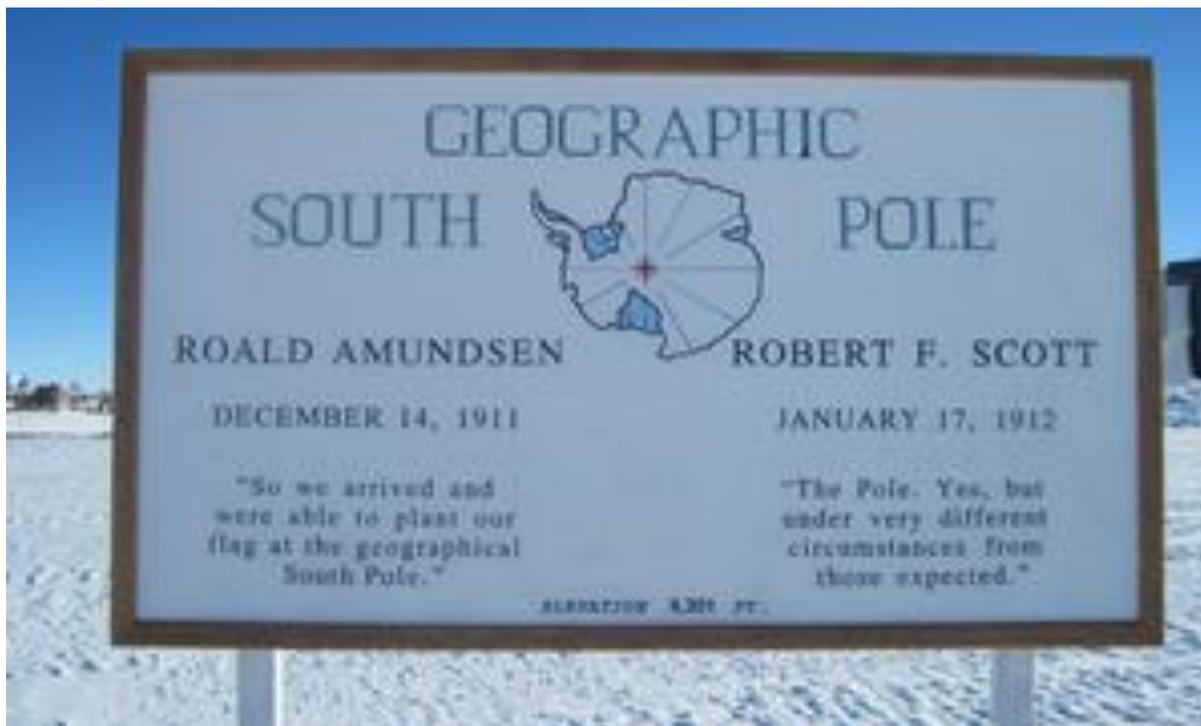


*Last Degree camp on the Polar Plateau with all the outside jobs done and stove purring away inside.*

- 0700 Alarm. Fire up the stove straight away and start heating the water and ice in the pans. Brews, breakfast, re-heat water for the days sledging in flasks and insulated bottles.

- 0825 All warm clothing is put on in the tent with sledging harness on over windproof layer and below down jacket. All tent / stove / food bags are put outside ready for packing sledges. Tents are efficiently packed away and stowed on the large sledge.
- 0855 Depart camp and start navigating a course South
- 0900-1700 Sledge hauling for 8 hours with a 5-10 min break every hour. Snacks are often kept in the pocket to keep them warm enough to be edible. Flasks, gloves, anything else needed during the day is kept by the opening of the sledge bag so stops are swift and efficient. Navigation is based on following a bearing just west of the Pole (as the U.S. base at Pole does not want skiers going under its large Antenna. So, in order to avoid a large dog leg variation near the Pole a bearing is followed on a GPS waypoint of 89 degrees, 59 minutes South, 121 degrees West).
- 1700 Stop sledging, pitch tents into prevailing wind, collect snow for melting and stack in neat bricks in tent porch. Dig toilet area for shelter using the 'WAG BAGS' (all human waste is removed from the Last Degree sledging trips). Tent / Stove / Food bags and sleeping bags & mats go into the tents, everything else stays on the sledge. There is usually an 'inside man' and outside man for striking and pitching the tents to organise the different tasks involved in setting up the inside of the tent and finishing the pitching and general camp tasks outside. Hang up icy goggles and face mask to dry in the tent. Due to the strong 24-hour summer sun the tent is generally pleasantly warm and can even be too hot to be comfortable during the night, not always though!
- 1730-2130 Tea, cakes, soup, dinner, cakes, tea, coffee. Melting large amounts of water for re-hydrating, filling tomorrow's water bottles (to be kept warm in the tent overnight) and the pans for tomorrow's breakfast. Short read, diary, sat phone, blogging, etc., etc.
- 2130 – 0700 9.5-hours sleep, can't be bad!

## The South Pole



*The Geographic South Pole is marked by this board with quotes from Amundsen and Scott, a small metal plaque and the U.S. flag*

Arriving at the Pole has a slight 'Mad Max Beyond the Thunderdome' feel about it. Having been out in the wonderfully wild and empty polar plateau for a week you are gradually confronted with the polar-industrial landscape of the U.S. National Science Foundation 'Scott Amundsen' base. As well as the geographic and cultural shift, there is a strange temporal shock too. Having come from Patagonia via Patriot Hills we are on Chilean time. The base runs on New Zealand time and thus you suddenly ski into a 16-hour time zone difference which meant we were doing our souvenir shopping and in the Post Office at 3.30am Sunday morning our time!

Being an NSF base, science is the driving force (although you could be forgiven for thinking otherwise at the Geographic Pole, which is owned by no one but marked by the U.S. flag?). Tourists and skiers are welcomed to the Pole and given a single short tour of the base with tea and cakes by the hospitable and friendly staff. After that, visitors are asked to stay put on the designated campsite and wait for the arrival of their aircraft to whisk them away.

The Poles summer season was coming to an end. About 210 of the 250 staff would be departing over the next couple of weeks leaving 40 or so folk to enjoy the single sunset in April followed by 6 months of darkness and single sunrise in September. Judging by a variety of stunning pictures adorning the base corridors, the Southern Lights or 'Aurora Australis' can be incredibly spectacular.

We marked our arrival with a team dinner party in the tent and guest of honour was the young Canadian woman Meagan McGrath. She had also just arrived but with a rather different journey to get here. I had watched Meagan depart Patriot Hills (about 600 nautical miles away) 38 days ago during which time she had travelled solo, covering around 15 nautical miles a day. Shortly before that Meagan had survived an unroped crevasse fall near the start of her journey at Hercules Inlet. It took quite some courage for her to set off sledging again, never mind complete her long solo journey, but she did it. You can read more about Meagan's journey [here](#).

We had just enough time for soaking up the South Pole ambience, taking our photos, meeting the locals and relaxing at the end of our sledging journey before the DC-3 Basler arrived to whisk us back to Patriot Hills. Three and a half hours of looking out the window thinking, Meagan has skied across all of this. She was fast asleep! The Last Degree and to a much greater extent the 'Ski all the way' challenges will appeal to those who like the sense of a slow incremental journey. Where progress is marked in the passage of days and weeks, of the nautical miles slowly falling away instead of the modern forms of swift, convenient travel we are so used too. The challenge is considerable both physically and mentally. The reward is the pleasure and privilege of being in such a wild, raw environment and completing a tough, self-powered journey. I, for one, am not proud of the carbon footprint I make to get here but am weak under the powerful spell cast by this magical continent, and I am compelled to keep returning.

### Last Degree Equipment Notes

A few suggestions as to items of kit worth considering and / or modifying:

- **Face Mask / Goggles** combinations. The classic polar conundrum: The face needs protecting from the sun and the wind / cold but sun glasses steam up and sun cream doesn't really cut it. Most folk opt for Goggles all the time and sewing a loose face mask into the base of the goggles is a good idea. It is more comfortable for long term wearing and steams the goggles less if the face mask is a bit looser fitting like this rather than a normal tight fitting neoprene mask or balaclava which is more effective and necessary in colder, windier conditions.
- **Pogies**. Think large, loose fitting insulated mitts for motorbike handles. Attached to the ski pole handles this gives your whole hand, wrist and lower arm excellent protection and insulation and even on cold days, thin gloves can be worn meaning little jobs can be done efficiently.
- **GPS & batteries**. Unless you are familiar and proficient with a sextant a GPS is likely to be your main source of reference for navigation. Alternative methods can be used in the short term e.g. direction of travel in relation to your shadow (following it exactly at C. 1520 Chilean time); direction of travel in relation to the regular pattern of Sastrugi. Worth having a good supply of spare Lithium batteries for your GPS and a complete spare unit.



*A good set of goggles linked to a complete face mask is essential for protecting your face and eyes from the ravages of the cold, windy, icy, hot, sunny and incredibly dry climate of the Polar Plateau*

- Strap-on (**compass holder!**) On bright, clear days sastrugi forms can be sighted up to around half a kilometre away ensuring a straight course. In poor visibility and contrast much more frequent reference must be made to the GPS or compass device. A platform so your GPS / compass sits in a good sighting position means you can leave your hands in the pogies, keep them warm and concentrate on efficient skiing rather than constant stops to hold and sight from the device.
- Kicker skins? The most energy efficient **ski / skins / bindings / boots** set up in our team was definitely 'The Norwegian set-up'....2/3rd Kicker skins on long light Scott Skis with Rottefella bindings and Alfa polar ski boots
- **Hilleberg Tents.** For ease of pitching, design and weight to size ration we used Hilleberg Keron 4 tents. Comfortable for teams of 2 and 3. Would be a bit too 'cozy' for 4 large blokes, but very warm! By only splitting each of the 3 poles by

the marked halfway joint and rolling them into their large sledge bags we were able to put them up and pack away very swiftly which is a massive time and energy saving over an extended camping trip. To fit them into the sledge like this without any fuss or the need to bungee-cord them on top we used one large expedition pulk and the rest of the team used:

- **Paris Expedition Sledges.** Light, simple, tough, effective. These sledges also leave a trail like a mini-piste which your companions will appreciate! They can be rigged with cord and a couple of bungees so the sledge bag is very simply kept in place for the flat and fairly smooth terrain expected.
- **Bungee Sledge trace.** Rigging a thick bungee to take the initial strain of the sledge means it will maintain a better momentum and not feel so jerky going over sastrugi etc. Worth doing.
- **Stoves & Fuel.** MSR Whisperlites were used in preference over more modern and aggressive stoves as they are going for so long in the tent it is nice to be able to actually hear each other speak over the purr (rather than aircraft style roar) of the stove. The clean and efficient Coleman white gas burns well even at very cold temperatures and we allowed for 200mls per person per day with a 10% contingency for getting stuck in bad weather.