

# North Jameson Land 2019 Expedition Report



# **North Jameson Land 2019 Expedition Report**

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## Introduction

Jameson Land is a peninsula on the northern side of Scoresby Sund. It is characterised by low hills of sedimentary rock separated by wide valleys. At its Northern end the terrain becomes more mountainous with peaks up to 1200m split by steep sided valleys, the geology also changes giving rocks of many different colours displayed in bands and rings across the landscape.

This Northern region of Jameson Land has recently become of interest to mining companies looking for mineral wealth, but before this only a couple scientific expeditions and fur trappers had visited this region.

Having visited the East Coast of Greenland on 4 previous occasions I was keen to explore a region that had had minimal exploration and after extensive research settled on the Permdal region of Northern Jameson Land.

The intention of this expedition was to explore this area with a small team of like-minded friends to climb whatever peaks we could in the area and to discover what geography, geology, flora and fauna exists in this remote part of Greenland.

## Team

Simon Baker (48) MIA, ML(W) Director of Outdoor Innovation Ltd and Freelance mountaineering Instructor

5 Previous visits to Greenland (4 to the east coast of Greenland (Milne Land and Liverpool Land) and 1 Icecap crossing attempt)

Extensive Arctic experience including an attempt to ski the length of Scandinavia unsupported in 1996.

Climbing experience across the UK as well as Europe and New Zealand.

Danny Griffith (35) MIA, ML(W)

Extensive climbing/mountaineering experience across the UK with 10 plus Winters in Scotland.

Several personal climbing trips to the alps, Verdon Gorge, Picos de Europa, Rigalos.

Exped leader for Far Frontiers Norway 2018.

Jo Blackshaw (47) IML, ML (W trained)

10 years plus as expedition leader for various companies.

- Himalayas 4 times including Stok Kangri (6153m)
- Africa 6 times

- South America 5 times
- Asia 4 times.

Works as a freelance IML and has led 20 Tours du Mont Blanc along with GR20 (Corsica)

Regular personal mountaineering trips to Scotland (mostly with the other team members).

Dr Paula Joy (35):

Royal College of Anaesthetists; Primary FRCA: 2015

Royal College of Surgeons; Advanced Trauma Life Support Provider: 2017

Multiple Peaks over 6400m in the Himalayas and Andes (2011 onwards)

Trekking in Himalayas and S Amreica. Extensive UK experience Summer and Winer.

Pete Church (44)

Charge Nurse (23 years) in Intensive care (north Bristol NHS Trust)

Pete has worked as the medic on unsupported expeditions to Belize (3months) and Borneo (4 months), participated in a London to Mongolia rally. Trekking experience in Himalayas and Malaysia and climbed for the last 15 years all over UK and Europe.

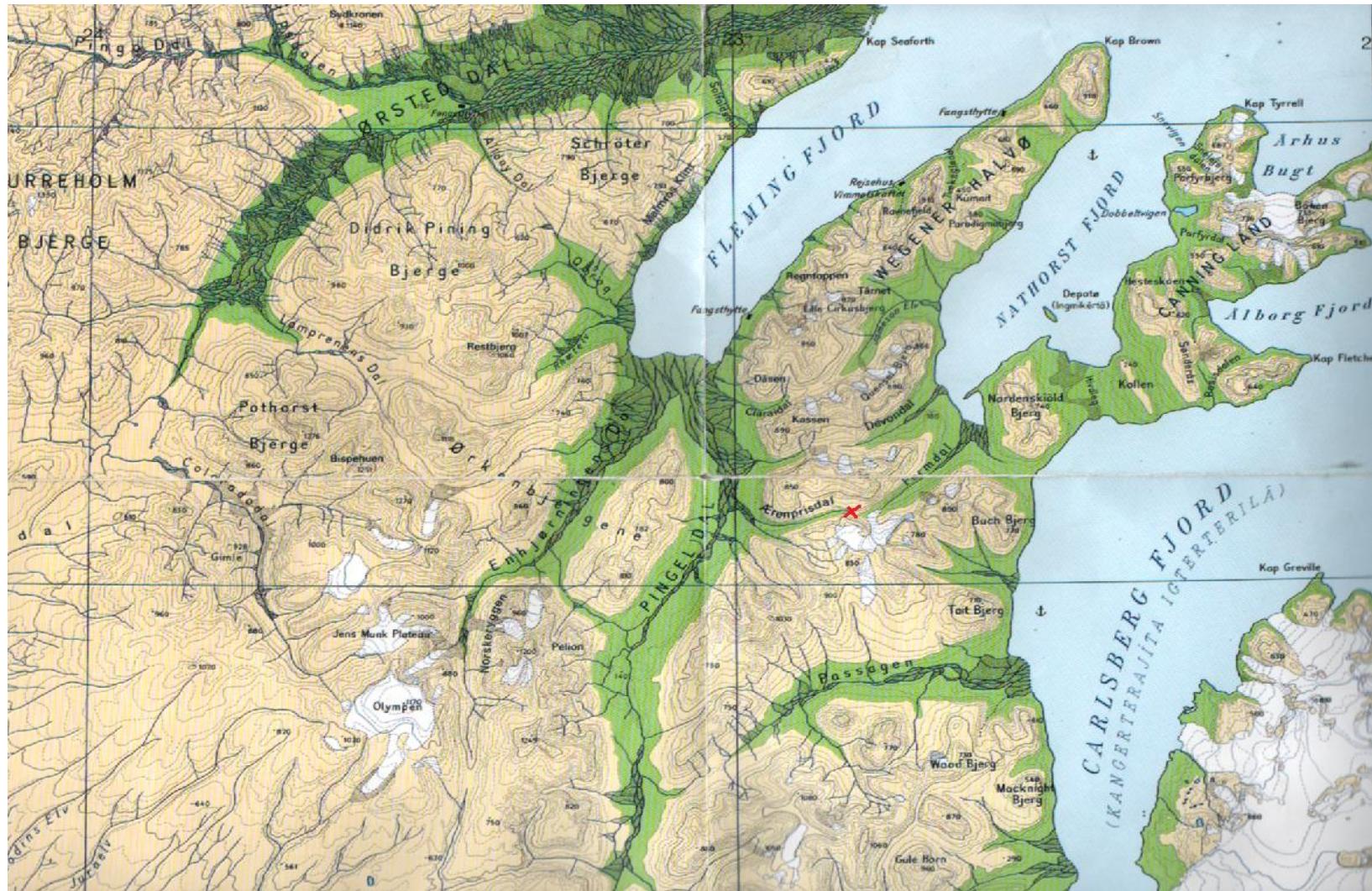




Paula, Jo, Simon, Danny and Pete (L to R)



## Research and Maps



Map of the area showing drop off point/Basecamp (red cross)

The only maps of the area are the 1:250,000 produced by saga (this is the Ittoqqortoormiit/Scoresbysund sheet). This can be bought online from Stanfords of London.

However, researching who had visited the area led me to several really useful sources of information. Firstly the Arctic Club ( <https://www.arcticclub.org.uk/> ) have a library of expedition reports which was a useful starting point. I also found a portal to mining exploration on Greenland that proved to be a mine? of useful information and very detailed aerial photographs.

<http://www.greenmin.gl>

Based on the assumption that if climbing expeditions and geologists have not visited an area, then you are likely to be some of the first people to visit, led me to settle on North Jameson Land as a suitable location to explore. Further hours researching led me to a brilliant Document by Anthony Higgins which details every single expedition to the East Coast of Greenland. There is even an interactive version at the web address below.

[https://data.geus.dk/geusmap/?mapname=stednavnedb#baslay=baseMapGI&optlay=&extent=402280.6110586937,7909650.991276538,490622.35300182574,7951889.386643099&layers=grl\\_geus\\_north\\_east\\_higgins\\_map,grl\\_ne\\_higgins\\_placenames,grl\\_ne\\_placenames&](https://data.geus.dk/geusmap/?mapname=stednavnedb#baslay=baseMapGI&optlay=&extent=402280.6110586937,7909650.991276538,490622.35300182574,7951889.386643099&layers=grl_geus_north_east_higgins_map,grl_ne_higgins_placenames,grl_ne_placenames&)

This document was invaluable and confirmed who had been in the area and when, and also which peaks have been named etc.

The aerial photos obtained from the mining web pages also allowed me to identify several areas to be explored. In particular where 2 side valleys flowing into Pingel Dal that looked like they should have a sizeable waterfall where the valleys intersected. These became a bit of an obsession and definitely locations I wanted to explore.





Aerial photo of the southern part of the expedition area (it is possible to zoom in much further once downloaded)

## **Expedition Summary**

Having chosen a location for being dropped off/basecamp the task was to put a team together and work out the logistics of getting us and all the required kit there and back.

The team include my wife (Jo) and friends and climbing partners Danny, Paula and Pete, all of whom were keen to come and had the time and funds to make it happen.

We chose not to use any Logistic company to help us get there and back but managed to sort it all ourselves. Details of this can be found in the Notes section later in the report.

It is possible to book commercial flights from the UK to Iceland, across Iceland and from Iceland to Greenland (Constable Point). From there we booked an Air Greenland helicopter to drop off us and all our kit (2 flights each way for 5 people and all the kit). Getting all the kit on the commercial flights just required us booking an extra bag each on each flight.

We took enough kit and food to spend 21 days in Greenland and 18 of those out at our basecamp. Having the helicopter booked for our return flights also became part of our emergency plan (extraction) and helped with our insurance cover.

Fuel for the stoves and firearms/flares for bear protection were the 2 items we could not take with us from the UK, so they were sourced in Greenland from Nanu Travel. This worked, sort of, but unfortunately, I would be reluctant to use them again as they were far from reliable.

We made a decision not to erect a perimeter wire around the camp as we felt that being alerted to a Bear/Musk Ox 10m-20m from the tents was not great, plus the fact that these systems have not worked well for other teams in the past. As a team of 5 we felt that doing a 2hr watch each overnight was the best way of ensuring that we would be alert to any animal encounters. The watches were done between 10pm and 8am (arbitrary timings as there is 24hr daylight) on a rolling basis. These watches were not too onerous and in fact gave each of us opportunities to contemplate the peace and beauty of our location, as well as get lots of domestic duties done (washing, fetching water, writing journals etc)

Once we arrived at basecamp with all our kit the plan was to explore in all directions possible and collate a list of obtainable objectives and tick as many of these off as possible. With us we had crampons, walking axes harnesses and helmets, 2 x 30m ropes and a modest amount of climbing kit, with the expectation that scrambling would be the limit of our climbing exploration. We also carried lightweight trainers for doing river-crossings (of which there were many).

Our Basecamp (Lat 71.538331, Long 22.795862) at the watershed between Permdal and AErreprisdal gave us access to both those valleys as well as the mountain ridges to the north and south of us. Over the next 18 days we discovered 2 waterfalls and climbed all the climbable peaks within our reach. We did have 3 days of continuous rain which kept us tent bound for that time, other wise the weather was mostly blue skies and too hot (for me at least) with temperatures exceeding 20C. The details of each day's journeys are in the next section

The pickup by helicopter was straight forward and we had 2 days at Constable Point before flying back to Iceland and then home.

### **Daily Journeys**

**14<sup>th</sup> July** Flight from Manchester to Keflavik, transfer to Reykjavik domestic Airport and then flight to Aukyreri. Overnight in hotel in Aukyreri.

**15<sup>th</sup> July** Flight from Aukyreri to Constable Point. Collection of Fuel and Firearms and confirmation of helicopter flight times for the following day. Evening walk up Point 470 behind Constable Point.

**16<sup>th</sup> July** Danny flies to Ittoqqortoormiit to collect guns. 2 x flights to Basecamp. Danny and I took the first flight and from the helicopter chose a suitable landing area/basecamp. While the helicopter was bringing in the rest of the team we scouted around for a suitable basecamp and moved some of the kit to it. The other arrived 1 hr later and then left us to it. The rest of the day was spent establishing camp, water source, toilet etc.



**17<sup>th</sup> July** The first direction for exploration was West from Basecamp down AErprisdal to see if we could locate the first of the 2 waterfalls that had been predicted from the aerial photographs. The terrain in the valley was tough with lots of boulder hopping, snow-bridges and a river crossing. We were rewarded however with the first waterfall. It is approx. 50m high and as we saw a large male snowy owl close to the falls, a proposed name would be fall of the snowy owl (Qorlortoq Uppik?). Location (Lat: 71.526165 Lon: -22.917246). This was a 12km walk.

**18<sup>th</sup> July** An exploration onto the North side of the valley above our basecamp. We traversed East below loose cliffs on a shoulder of less steep scree slopes until it was possible to ascend loose scree slopes north around the side of the cliffs. This led us to a summit plateau with great views all round. This summit was connected to the main ridge between Permdal and Devondal by a col and steep slopes up onto the main ridge. Location of Summit ( Lat: 71.554609 Lon: -22.785279 ) this summit is yet to be named. This was less than 6km from our camp, but the going was slow due to the terrain.

**19<sup>th</sup> July** Rest day. Due to the heat (22c?) and general tiredness, a rest day was taken with a plan that bigger days were planned for the upcoming week. This day also allowed a lot of camp admin to be done and closer examination of the camp area.

**20<sup>th</sup> July** The first exploration of the Southern side of the valley and onto the icefield. Finding a route through the piles of moraine and onto the ice field was not straight forward. The icefield had large areas of old ice exposed (dry glacier), but the upper area was covered in this year's snow (wet glacier). We did put on crampons and carry our axes but did not rope up as there was little evidence of crevasses or deep water channels. We ascended the icefield in a SW direction until we could ascend to a snow summit overlooking our basecamp. We then traversed west to ascend a rocky point at ( Lat 71°31'20.76 Long 22°49'23.05 ), this summit is yet to be named. From here we had good views of the main mountain ridge between Permdal and Passagen and the most likely route to the tops. We descended back onto the icefield and headed back towards our route up. On this section of the route we came across a deep water channel that was largely

covered by a thin snow layer. Falling into the channel would have been fatal due to the depth of the channel and volume of water that was flowing through it. We made a belay and used the rope to safeguard people as they stepped across the channel. This did highlight the dangers of such icefields and the need to be very vigilant of all potential hazards.

**21<sup>st</sup> July** Having been woken at 2am by Jo who was on watch at the time, we got up to witness a family of Musk Ox passing within 25m of our camp. We did load the guns and made sure that everyone was dressed to move if necessary. There where 10 ox in the group with 3 young, 3-4 females, 3-4 young males and one dominant male who was considerably larger than the others. There was a moment, when he was looking directly at us from approx. 25m, that I thought there was a danger he could charge, but we did not react or provoke them, and they wandered past and headed off down Permdal. This incident alone proved the worth of having someone on watch at night.

This was the day I wanted to go looking for the main waterfall I had identified from the aerial photos, so we headed back down AEmprisdal and SW crossing the river that had come from the first waterfall we encountered. These river crossings were up to knee deep in very cold fast flowing water with a rocky riverbed. We had taken trainers to do crossings in, so that we could keep our boots dry. Trying to do these crossings barefoot would be a really bad idea.

We traversed the SW slopes of Pingeldal until we could turn SE up the valley that contained the river, and hopefully a waterfall. When it came into view the waterfall was more spectacular than I could have hoped for (see cover photo). It was a single drop of approx. 80m and was carrying quite a volume of water that then disappeared below a snow bridge for several hundred meters. We have not given this falls a name yet, Location (Lat: 71.52003 Lon: -22.972871 ). The return journey back up AEmprisdal was hard work, overall a 17km day.

**22<sup>nd</sup> July** The first of the wet days. We woke up to low cloud and rain that was enough to stop us going out for a long day. The rain did stop, and the rest of the day was spent building a new toilet (the first one was getting full already?) and washing clothes etc.

**23<sup>rd</sup> July** The weather was still not great with Low cloud and snow on the high points visible from the camp, so no major exploring was going to happen on this day. Danny was keen to see if there was a route from our location across the valley (North) onto the icefields below point 780m and around to the col between 780m and 850m (both on the South side of Permdal). Everyone except me went off to explore this possibility leaving me to rest my sore knees. The route was not obvious and would have required a river crossing that they were not prepared to do without alternative footwear so that plan was abandoned, and they returned to camp. Ultimately, we did not find a route up 780m, or indeed to the col.

**24<sup>th</sup> July** With improved weather and well rested it was decided to attempt the 3 peaks that make up the main ridge between Permdal and Passagen. This was going to be a big day, but we had already explored the route up across the icefield to the ridge leading to the first summit. Once off the icefield the ridge proved to be straightforward walking through many different layers and colours of rock. The first summit (height 830m) was at ( Lat: 71.512241 Lon: -22.799678 ) and provisionally has the name ' Church Peak'. The ridge descended to a col containing a small cairn ( we concluded that this col was the easiest route from Passagen through to Pingeldal). From here we ascended the 2<sup>nd</sup> Peak on the ridge (height 900m), Location ( Lat: 71.497733 Lon: -22.861173 ), this top is provisionally named 'Joy peak'. At this summit I felt it was too far to the 3<sup>rd</sup> summit to include it on this day. It was very tempting, and I know other team members were disappointed not to get it done as well, but by the time we got back it was a long day, and including the 3<sup>rd</sup> (and highest peak) would have turned it into a bit of an epic.

**25<sup>th</sup> July** Another day of waking up to low cloud/fog. It was decided that we would traverse the northern side of Permdal towards the coast (East) and see if we could make it down to the coast. In traversing we had to cross a large number of gullies which slowed progress. By lunch time we had made it down onto a plateau area between Permdal and Devondal however the fog was thick enough to prevent us having any view of the coast. We decided to return to our camp, but via a route more in the base of Permdal. Our sheltered spot for lunch was shared with 3 male Musk Ox at approx. 100m, although wary of us they did not pose any threat. Part way back up the valley we came across some rocks on a grassy flat area. This stood out as not natural, and it became clear that the pile of rocks, had been built up as a table, and close by



were rocks in a 'tent' shape that had clearly been used to hold down a tent. Further investigation found a broken test tube and a small glass jam jar. This was clearly a camp site of a previous expedition. The only one that I can find (using Anthony Higgins documents) is the '2 year' Expedition led by Lauge Koch 1936-38. Hans Stauber (a member of Kochs team) is attributed to naming the valley for its Permian aged rocks, and this place must have been one of the campsites.



Campsite with table and stones for holding down tents from 1936-38 Lauge Koch expedition.

**26<sup>th</sup>, 27<sup>th</sup> and 28<sup>th</sup> July** 3 days of continuous and at times heavy rain. This weather was not expected in Greenland at this time of year and kept us in our tents for 3 days. After the first day of rain I started to worry about the rivers rising, and water running off the hillsides, as our campsite was potentially vulnerable to this. However even after 3 days of rain (potentially over 150mm) there was no sign of the river rising or any run-off, the water had just disappeared into the rock

debris, very unusual! The rain did seem to cause an increase in rock fall from the surrounding cliffs with several large falls happening in this period.

**29<sup>th</sup> July** After the rain it was good to get back out again. The main ridge between Permdal and Devondal, to the North of our camp was the objective of this day. We had had good views of this ridge from the peaks on the South side of Permdal on the 24<sup>th</sup> July. We found a weakness in the band of broken cliffs blocking access to the easier angled summit slopes and traversed across to the summit we had been close to on our first trip on the 20<sup>th</sup> July.

On gaining the ridge the view into Devonal was spectacular with huge cliffs plummeting down to an icefield several hundred metres below. The views in all directions were also spectacular and many photos were taken.



Cliffs overlooking Devondal from Permdal



The summit was at Location (Lat: 71.560350 Lon: -22.796781 ).

**30<sup>th</sup> July** From the previous day's vantage point we had seen a potential route up to the highest point on the ridge between AErempsdal/Permdal and Devonal. This point is at the Eastern end of the ridge and is shown as 850m on the maps.

Having traversed a lot of scree slopes, we used a large snow patch to access the ridge to the west of the summit. We then traversed the ridge with easy walking up to the summit, only to find a cairn already there!



The 'Pap' of Permdal



As this peak has no name on the map ( Location Lat: 71.554902 Lon: -22.911636, marked as 850 )and is not recorded in Anthony Higgins documents, I can only conclude that recent (2012) exploration by helicopter by Chinese geologist is the most likely reason for the cairn. As it happens, that made very little difference to the enjoyment of the stunning views from this summit. Views of Pingeldal, Devondal and the peaks to the North as well as all the way across to Liverpool land and out to Canning Land. On our descent we changed our route to include the 'Pap of Permdal' a beautiful peak with different coloured layers of rock perfectly exposed.

**31<sup>st</sup> July** Rest day. Plans where made to go back and attempt to reach the third peak on the ridge attempted on the 24<sup>th</sup> July, but as it would be such a big day a rest day would be ideal beforehand.

**1<sup>st</sup> August** Danny, Paula and Pete left early to go and make an attempt to go for the 3<sup>rd</sup> (and highest) peak on the ridge between Permdal and Passagen. Jo and I decided not to join them, and to go down the northern side of Permdal and explore the peaks/ridge further East than any of the summits climbed.

It was a really hot day and Jo and I failed to get onto the ridge due to an impassable band of loose cliffs. Danny and team did make it to the highest peak (1030m Location Lat: 71.480249 Lon: -22.932036 ) only to find a cairn already on it! Again, this peak has not been recorded or named by anyone, but geologists have taken samples in the area in the last few years (2012-14) and it is possibly them that have visited the top. It was an epic 25km day for the team and heat exhaustion had definitely affected them by the time the returned.

**2<sup>nd</sup> August** This was the day we got picked up and returned to Constable point. I had phone the Air Greenland office the previous day on the Sat phone and had confirmed our location and time of pick up. The pilot at Constable Point was given the Sat phone number and an agreed time to call. In the morning he called to confirm the pickup and the local weather conditions, and he arrived on time. He did then however proceed to fly off down the valley the wrong way, but a quick chat on the sat phone had him landing exactly where we had been dropped off. 2 flights later we were all back in Constable Point, a bit sad that the remote part of the trip was over.

**3<sup>rd</sup> August** As we had a couple of days before the flights back to Iceland, we decide to go for an explore in the area inland from Constable Point. I think the spare days where necessary as any issues with the helicopter, or bad weather could have easily delayed the pickup, and missing the flights back to Iceland would cause all sorts of complications.

We headed up to point 470 West of Constable Point and followed the ridge back (West) to a set of sandstone pinnacles. On route we found a Musk Ox skeleton, and an area of rock layers that contain fossilised wood, as well as ammonites. Unfortunately, the pinnacles are far too loose to have any climbing on, but they are a great view point for Jameson Land and across the Hurry Inlet to Liverpool Land. This was a 15km day and again very hot.

**4<sup>th</sup> August** Just South of Constable Point are a set of large sandstone cliffs, at the base of which are some large boulders. Paula, Danny and I went to have an explore and possibly put up some boulder problems. The rock quality was not great, but there were some climbable boulders and some ascents were made. We then got everything packed up for the flights back. We had decided that we would take all rubbish back to the UK. The only things left in Greenland was human waste in the toilet. We felt that it was not good enough to leave the rubbish at Constable Point as they have no facilities for recycling, and the rubbish was our responsibility. As such it was packed into the blue barrels and taken back to the UK where it was separated, and all recyclable material was properly treated.

**5<sup>th</sup> August** Flights back to Aukyreri and then onto Reykjavik. We stayed at the Snorri Guest House run by Magnus. It is a great place with good rooms and showers and a brilliant breakfast.

**6<sup>th</sup> August** A whole day in Iceland to unwind, eat good food and get properly clean, followed by a 3.30am alarm for the taxi to Keflavik and the flight home.

**7<sup>th</sup> August** Very early start but a straightforward taxi transfer to the airport. The check-in and security were so much easier than Manchester Airport, and a pleasant flight back to UK.

## Accounts

<u>Flights</u>	Per person£	Total£
Manchester to Keflavik (return)	270.78	1353.90
Reykjavik to Aukyreri (return)	271.01	1355.05
Aukyreri to Constable Point (return)	668.72	3343.60
Excess baggage (20kg per person) (all flights)	66.80	334.00
<u>Accommodation and Iceland</u>		
Aukyreri Hotel (1 night)	126	630.00
Reykjavik Guesthouse (2 nights)	229	1145.00
Transfers, taxis and food	153	765.00
<u>Greenland costs</u>		
Air Greenland helicopter costs		14000.00
Extra Helicopter Flight to pick up the guns		2100.00
Refund from Air Greenland on return due to shorter than expected flight time.		-2450.00
Food dehydrated for 21 day	210.73	1053.65
Food (everything else) for 21 days	200.00	1000.00



Fuel (10litres)and hire of firearms and flares	225.60	1128.00
Insurance (BMC expedition)	680.00	3400.00
Total costs	3101.64	27058.20
Grants (Gino Watkins Fund)		-500.00
		28658.20

Note 1. The helicopter flights where not included in the cost per person as they where covered by sponsor ship from Outdoor Innovation Ltd.

Note 2. Any personal equipment that was purchased for the expedition has not been included in the expedition accounts.

## Notes

### Travel and Accomodation

Booking flights from the UK to Iceland, across Iceland and from Iceland to Constable Point was all done online with Iceland Air and Iceland Air Connect (for internal flights and flights to Greenland).

Inquiries about excess baggage where done over the phone and handled with no fuss in English. The extra bags were then booked online.

Each team member then had 2 x 20kg hold baggage and 6kg hand baggage for all food, equipment and personal kit. This did not seem to be an issue and would only prove tight if large amounts of climbing kit were to be taken.

The only items not taken on the flights were the guns and stove fuel. These were to be supplied by Nanu travel in Ittoqqortoormiit. Unfortunately, due to sea ice filling Hurry Fjord 2 days before we arrived, they could not get the items to us at Constable Point. This could have been sorted before we arrived but no real effort on their part was made and ultimately, we had to fly one team member to Ittoqqortoormiit to pick up the guns (we obtained the fuel from the guys at Constable Point). The guns that were picked up were in a poor state and the rifle required a last-minute service from the guys at Constable point before it worked. The shotgun was rusty and gritty, but did work, the flares for the flare gun were 2 years out of date. As a result, I will be looking for an alternative solution for my next trip. Tangent where no help on this front as they would only supply the guns as part of a package at a minimum cost of £1500 per person.

I will be looking into getting a firearms licence and taking my own guns out. We also had 2 (3hr) training sessions with both rifle and shotgun at Minsterly Ranges. This training was important and meant that all members of the team knew how to fire the weapons accurately and safely under pressure. I definitely recommend getting some training before you are out in Greenland.

Air Greenland where also very easy to deal with, by phone and email. 2 flights in each direction would have had enough space/weight to accommodate a 6<sup>th</sup> team member and kit and having the return flights booked (extraction) did help when compiling an expedition dossier for the BMC insurance.

I was also very pleased to receive a refund on returning to the UK as the helicopter flights had not taken as long as predicted in the quote, so they refunded the difference, excellent service.

On the way out we had one night in the Iceland Air Hotel in Aukyreri. This was a very good hotel and worth the money (excellent breakfast), I guess cheaper accommodation would be easy enough to find as well. Staying at the Snorri Guest House in Reykjavik on the way back is highly recommended; great rooms, great breakfast.

Once in Greenland we camped at Constable Point and out in Jameson Land. We used Terra Nova Mountain Quasars and they were ideal. Plenty of space and bombproof construction.

## Logistics and Equipment

Having a weight limit of 46kg per person for everything focuses your mind on what you actually need to take with you. It basically split down to 26kg for equipment and clothes and 20kg (including the barrel) for food (21days).

We took 2 x 30m ropes (Beal Joker 9mm) and a small rack of climbing kit with a view that we could get short sections of scrambling done. We all had an ice axe, crampons, helmet and harness as well as B2 boots and trainers for river crossings.

The weather should be settled high pressure weather with 24hr daylight and temperatures up to 18c. As it was, we had temperatures up to 25c and several days of rain. We also had a couple of 'nights' when it got down to 0c. The tents (Terra Nova mountain Quasers) were great and everyone had sleeping bags that coped easily with the temperature range. Down jackets were very handy for sitting around in and especially the night duties. We did not have many changes of clothes and a couple of washing sessions were required.

Food as always was a major issue on expedition. Each day was approx. 3000Kcal, but we did come back with surplus, partially due to the number of tent bound bad weather days, and partially as people got bored with the food.

Breakfast was porridge (each of us had our own blend) and coffee (apparently an 'air press' is the thing to have). Lunch was a mix of Biltong, trail/nut/mix, muesli bars, chocolate and dry fruit. Evening meals were a cup-a-soup starter followed by a 800Kcal Exped food packet and a 400Kcal Exped Food dessert packet. We had each chosen 21 of these each and Exped foods did us a good deal. The range of meals is good, but some were definitely more popular than others. Having a little tub of seasoning to add to them was a brilliant idea (thanks Jo). Variety is definitely the key to enjoying camp food for 21 days, well worth having different versions of things and being happy to swop.

We had 2 MSR Whisperlite stoves, but only needed to use one as it boils water so quickly. It was necessary to have a spare as we did have a bit of plastic crack on one of the pump units. We used 'Rinse' Bensin which we were given by the guys at Constable Point, this worked well in the stoves and we used approx. 7ltrs for 5 people for 21days. We also took a water

filter but did not have to use it as we easily found crystal clear water sources. However, in areas of strong glacial runoff the water was full of fine sediment and the filter would have been vital in these areas.

All this kit and equipment fitted into a large rucsac each, a small hand luggage bag and a blue barrel each. We had 2 x 60l and 3 x 30l barrels between us. These were big enough to fit all the food (and a couple of bottles...). On our return flights we only booked 2 excess bags. We achieved this by filling the small barrels with ALL our rubbish and then put the small barrels inside the larger ones (and one inside a large rucsac). This worked well and ensured that we brought all our rubbish back to the UK.

The helicopter easily took us and all our kit on 2 flights, in fact we could have fitted in a 6<sup>th</sup> team member and kit at no extra cost.

### Insurance

We got insurance with the BMC at a cost of £680 per person. Jim at the BMC was very helpful, but it did require us all filling out an exped form. On this we had to detail personal experience, plans for the trip, first aid provision and rescue plan. One of the things that helped us was having flights back to Constable Point paid for, as this meant we could extract ourselves and then they (BMC) would sort out issues from there back to the UK.

Having the correct level of communication equipment was also a factor. We had an Iridium sat phone and a Garmin InReach. The sat phone is a fairly standard piece of kit for expeds, but the Garmin InReach is fairly new and well worth looking into. It is a GPS unit that also allows for communication. It is linked to a 24hr monitoring service, so if you press the big red button rescue services know that you have had an emergency, who you are and where you are. It is also possible to link it to a smart phone so that you can message the emergency services, giving details of what your emergency is and what help you require. It can also be used to send text messages to any other phone as well; it is all down to the 'package' you sign up to per month.



We also used 2 sets of Power Monkey solar panels and chargers and with 24hr sunlight had no issues with keeping cameras, GPS, phones and Kindles charged.

### Acknowledgements

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