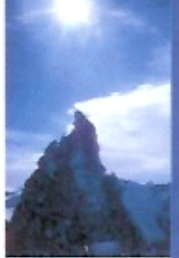




SCOTTISH MOUNTAINEERING CLUB
EAST GREENLAND EXPEDITION



2003



Expedition Report

**The Staunings Alps
 North-East Greenland National Park**

**MOUNT
 EVEREST
 FOUNDATION**



Dansketinde from the air, showing the obvious line of the South Ridge. To the left (just catching the sun) is the South-West Ridge, whilst the North-West Ridge forms the left-hand skyline. The Original Route takes a couloir that is just hidden behind the right-hand skyline, and Col Major is the flat glacier in the foreground. The fine peak to the right is the Hjomespids, whilst the peaks in the foreground on the left are the Døddøenryggen.

Aerial photograph taken by Colin Read, 2001

Supported
by:

**The British Mountaineering Council
 The Mountaineering Council of Scotland**

**The Mount Everest Memorial Fund
 The Gino Watkins Foundation**

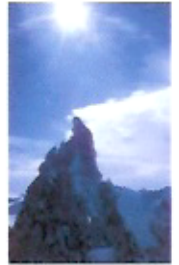
With
additional
thanks to:

**The Danish Polar Centre
 Ebbe Hartz of Oslo University
 Walkers of Aberlour
 The Scottish Mountaineering Club**

**Mesters Vig Air Base
 Terra Nova Equipment
 Lyon Equipment
 Big Stone**



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2003



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MCofS: 03/14

Gino Watkins Memorial Fund

Contents

1.	Expedition Summary & The Team	Stephen Reid
2.	Greenland Mesters Vig & the National Park,	Stephen Reid
	Information Transport & Freight	& Colwyn Jones
3.	Expedition Diary	Stephen Reid
4.	Route Descriptions	Stephen Reid
5.	Mountaineering Equipment	Hamish Irvine
6.	Specialist Equipment	Colwyn Jones
7.	Medical Equipment	Colwyn Jones
8.	Food	Hamish Irvine
9.	Weather	Colwyn Jones
10.	Snow Conditions	Jonathan Preston
11.	Geology	Jonathan Preston
12.	Flora & Fauna	Hamish Irvine
13.	Accounts	Stephen Reid
14.	Future Possibilities	Stephen Reid
15.	Acknowledgements	Stephen Reid
16.	Copyright	MEF Statement



Mesters Vig staff exercising the huskies.

1 - Expedition Summary - Stephen Reid

The Scottish Mountaineering Club four man expedition visited the **Staunings Alps**, a large range of (mainly) granite and gneiss glaciated peaks in the North-East Greenland National Park, for a three week period from mid July to mid August 2003. The team consisted of Stephen Reid (Leader), Colwyn Jones (Medical Officer), Jonathan Preston, and Hamish Irvine, three of the above (Reid, Jones and Irvine) being members of the SMC.



From left to right: Stephen Reid, Colwyn Jones, Hamish Irvine and Jonathan Preston

The main aim of the expedition was to make the first ascent of the **South Ridge of Dansketinde** (2930m), the highest peak in the Staunings Alps. A secondary aim was the unclimbed **South-West Ridge** of the same peak. The plan was that these ascents should be attempted from a base camp at Col Major (2100m) from which both ridges are easily accessible. Three of the team, Reid, Jones and Preston, had been on the 1996 SMC Expedition which had also had its base camp on Col Major, and in fact Reid and Preston had made the first ascent of Dansketinde's **North-West Ridge** (TD-), whilst Jones, together with John Bickerdike, had made the first ascent of the **South Ridge of the Hjornespids** (2860m), Dansketinde's easterly neighbour. It was on that expedition, that the South Ridge had been considered as an objective, but its length and difficult appearance had put everyone off an attempt until it was too late.

The team met at Heathrow Airport on the 14th of July. Some problems were caused by the ammunition for our rifle which apparently should have been carried in a secure padded metal container. However, after the airport police declined to show an interest in the issue and, the Air Iceland staff having realised that they might end up with 50 .303 rounds to dispose of, we were allowed on our flight to Iceland, and later that day caught an internal flight to Akuyeri. After a night's stopover and several hours of delay, we were flown in a Metro-Liner to Mester's Vig, a small airstrip on the east coast of the Staunings Alps. Here more delays occurred when it was discovered that the team plus equipment and fuel (A1-Jet supplied at Mesters Vig - take your own containers) weighed 705kg. Although numerous inquiries had been made with the Danish Polar Centre as to the weight the Bell 222 helicopter could carry, no absolute answer had been forthcoming. As it was, the pilot refused to take us all in one load, so two trips (@ £900) a time were needed to get the

team plus equipment and food to Col Major. Base camp was established at a high point on the col of 2100m (72 06 29 N, 24 54 19 W). This meant a descent to reach our climbs and consequently a slightly laborious ascent on every return to camp. It also, as we soon discovered, meant that we were pitched in a bit of a wind funnel. However it gave us good views, eastwards down the Bersaerkerbrae to Kong Oscar's Fjord and Traill Island, westwards to the Gully Gletscher and the Greenland Icecap, and northwards to Dansketinde itself. We thus had plenty of warning of changes in the weather. In addition to the mandatory emergency satellite beacon, the team were also equipped with a VHF Radio obtained at Mesters Vig. This only worked well on days of good atmospheric conditions, but it is possible it might have become even more intermittent if we had sited our camp in the hollow nearer to the South Ridge.



Dansketinde, an aerial view, with the South Ridge Facing the camera, and the South-West Ridge just catching the light, almost on the left-hand skyline. The mountain on the right is the Hjornespids. The Original Route goes via the col between the two peaks.

Dansketinde (Original Route)

The 16th July was a beautiful day, and the entire team climbed Dansketinde by the Original Route. This ascends straightforward snow, up the East branch of Col Major, to a col between Dansketinde and the Hjornespids, before following a couloir alongside the rather broken and shallow East Ridge of the mountain (AD). Some difficulties were met low down below the col in the form of crevasses that had not been present in 1996. On the descent, marker wands were placed in case we met with bad weather on subsequent ascents, and also 2kg rock samples were taken at approximately 100m vertical intervals from the summit downwards (see note below). The round trip was accomplished in 9 hours.

Dansketinde (South Ridge - Lower Ridge)

There followed two days of clear but very windy weather during which it was difficult to do anything much outside the tents. A huge snow pit was dug to cook in, but though sheltered from the immediate blast, it was still an unpleasant experience with spindrift getting in everywhere. When the wind died down on 19th July, all four members of the

team made an exploratory ski-tour up the West branch of Col Major, between the South-West and South Ridges. This revealed a vast wall containing several good lines - the best being a superb steep rock pillar leading directly to the summit. We then returned to the foot of the South Ridge and climbed a lower, more or less independent section of the South Ridge to a snow col at the start of the main ridge from where an easy descent to Col Major was made. This part of the route (which was named the Douglas Boulder due to its resemblance to its famous namesake) gave some very loose, and some excellent climbing, mainly of the moving together variety, and was nowhere more than easy Severe in standard. Actually climbing time was 2.5 hours, though the round trip to base camp took nearer 9 hours. Grade PD overall.

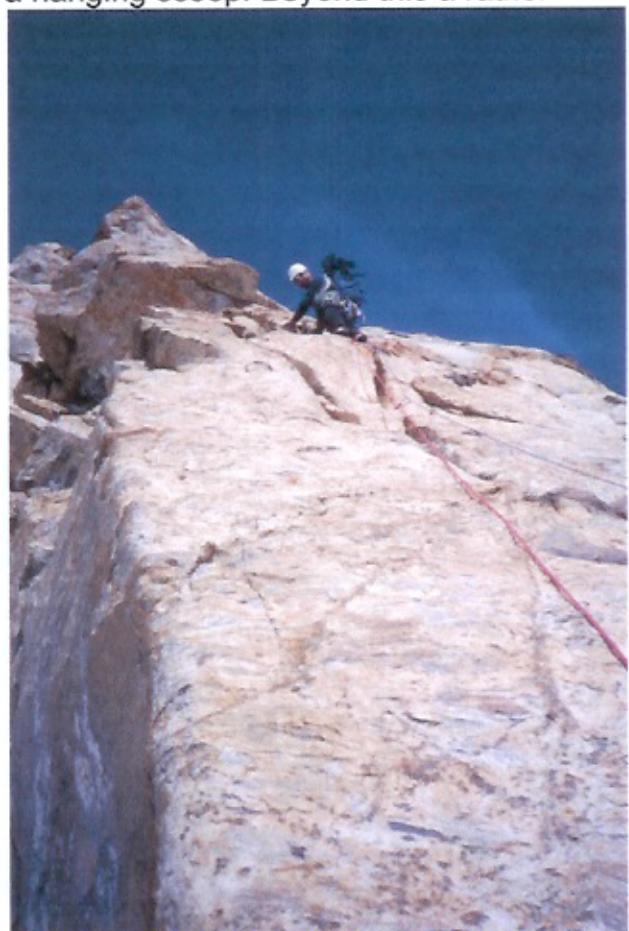
Dansketinde (South Ridge - Main Ridge First Attempt)

There followed another 2 days of clear but very windy weather. But on 22nd July this had cleared and an attempt was made by all four climbers on the main part of the South Ridge, leaving base camp at 3am and starting the first rock pitch at 4.30am. After two reasonably technical rock pitches on excellent granite, the climbing became easier, and the team moved together as two pairs for 450 metres until a breche where Jones led the tricky **Colwyn's Pitch** (VS), up into and out of a hanging scoop. Beyond this a rather

loose circumnavigation of the **Great Tower** bought us out onto the crest which after two further pitches fetched us up below much steeper climbing. Here we changed into rockboots, and Preston led a superb 50m sustained VS crack (**JP's Slab**) up a very exposed slab. Reid spent some time trying to force a continuation pitch directly up the headwall above, but after realising that aid would be necessary, and even then the outcome would be uncertain, retreated and followed an easier line to the right. More mixed climbing led back to a very exposed crest which ended abruptly in a seeming impasse under a vast undercut buttress where tempting chimney lines started 10m out of reach. Fortunately Irvine had spotted a possible way to the right and a few technical moves (VS) gave access to **Hamish's Ledge**, an exposed rubble-strewn pathway onto the right flank of the mountain. More technical mixed climbing led us up onto a steep snow ramp below the **Pinnacle**. This Pinnacle was

undercut on all sides, and the

"Impossible Wall" to its right had only a couple of crack-lines, both of which looked very hard. It did not help that they were also snow and verglas covered, the wind was getting up, it was late (11pm) and cold, and we, had been climbing for some 18 hours. After no volunteers were forthcoming to tackle the wall, an abseil descent was organized. Fortunately this proved reasonably straightforward and six hours and fifteen abseils later saw us safely over the bergshrund.



JP's Slab – Jonathan Preston on the first ascent.

The Jaalspids

Six days of mainly poor weather followed during which white-out conditions prevailed. Bridge, Scrabble and reading proved popular pursuits. In a slight improvement on the 25th, a reconnaissance was made of the South-West Ridge via an ascent of the Jaalspids, a small rock peak (2100m) at the foot of the South West Ridge, first climbed by Preston and Reid in 1996. This resulted in two new routes (both 6 pitches and S/V/S in standard), and from the summit a good view of the SW Ridge was obtained. Although the line of the true crest looked likely to prove technical and time-consuming, a line of chimneys and snow patches some 30 - 50m below the crest on the west side seemed more promising. The descent of the Jaalspids by the Original Route meant the whole party including Colwyn Jones visited **Col Wyn**, the high pass to the south of the Jaalspids, first crossed Reid and Preston in 1996, and named by them after Colwyn who was leader of the '96 Expedition.

The South-West Ridge

On 29th July, leaving camp at 8.20pm and starting climbing at 11pm, the whole party climbed this route which unfolded to reveal a great natural line of sustained difficulty with numerous pitches of Scottish grade IV and V ice and mixed climbing. A long snowslope was climbed to a col at the base of the ridge. The first rock tower, the **Fortress**, was bypassed by chimneys and snow field to its left, which led us to a position just below the



Jonathan Preston tackles grade V ice on the SW Ridge.

base of the **Grand Gendarme**. Here an unlikely-looking mixed traverse gave us access to a fine gully that would not have looked out of place on Ben Nevis. The ascent of this included 20m of grade V water ice, and several mixed sections of similar standard. At the top, nearly all ways ahead seemed impossible, but the one easy line was followed to a hidden grade V wall which gave access to a fine groove which led to easy snow slopes and the **Final Tower**. Here again, the most straightforward way, up a central chimney/gully line was followed and provided some difficult mixed climbing, culminating in a superb final groove and sudden emergence onto the top of the North West Ridge only 20m from the West Summit Tower. This was climbed via a small chimney (as in 1996). In all 19 pitches (including one moving together for 150m) were climbed to reach the Western Summit at 6pm. A snow arête joins this to the Main Summit from where the Original Route was descended to base camp which was reached at 1.45am. The overall grade was felt to be TD+.

The 31st saw a return of white out conditions, and though the 1st of August was better, we were still recovering from the exertions of the previous week. However with a good

forecast for two days and the end of the expedition rapidly approaching, on the 2nd, Reid, Preston and Irvine decided on a final attempt on the South Ridge. Jones remained at base camp for as he put it "a well earned rest", and though the rest of us were sorry not to have him with us, we did find climbing as a three was quicker, whilst it still left a margin for safety should someone be injured.



Stephen Reid on the superb rock of the initial slab.

Leaving Base camp at 4.15pm, the first rock pitch on the main section of the ridge was started at 6pm. Conditions were perfect, and rapid progress was made. **Colwyn's Pitch** was quickly bypassed by Reid who found a much easier variation on the left side of the crest, though unfortunately he then blotted his copybook by insisting on a frighteningly loose direct

ascent of the **Great Tower**. Preston managed to traverse off this to rejoin the previous route in a couloir on the right, and from then on our original way was followed until the pitch below the Pinnacle. Here Preston led a long and quite difficult (HS) pitch directly up

to a flake belay under the "**Impossible Wall**", which the party were astounded to find went at an easy Severe grade. The **Notch** was soon reached and with it the crest. This again proved easier than expected and two rope lengths saw us gathered on **Sunshine Ledge** where a well-earned short break was taken. Three pitches



Stephen Reid about to start the leftwards traverse on "Impossible Wall"

up short walls and snowfields above bought us to the foot of the awe-inspiring **Summit Headwall**. Initially we thought that this would have to be by-passed by a long traverse right, but a grade V through route up **Reid's Hole** provided the perfect gateway to the summit snowfield. Two more pitches of traversing under various subsidiary towers got us to the base of the summit tower where the fine Severe **Red Groove** led directly to the top - a superb finish. It was 5pm.

The descent was particularly unpleasant with waist deep sugary snow in the lower half and it was 10.30pm by the time base camp was reached – a round trip of 30 hours. 28 pitches (1545m) were climbed in total (not including the preliminary section of 500m) with one moving together pitch of 300m, and several more of 100m. With pitches of VS and Scottish V, and the difficulties high on the route, it was felt a grade of TD+ was appropriate.

On arriving at base camp, despite, drink, food and sleep being the major priorities, several hours were in fact spent burning rubbish and anything else deemed unnecessary in an effort to get our return load down to one helicopterful. This was successful and the team was taken off by helicopter at 10.30am the next morning and arrived back in the UK two days later having accomplished both of its main aims and without any injury or other accident. The only part of the expedition aims that we could not fulfill was a planned descent westwards onto the Gully Gletscher where we had our eye on various unclimbed lines and peaks. This was mainly due to bad weather, but in fact the icefall we would have had to descend looked severely crevassed and may well have been impassable.

Geological Research

In addition to climbing, the team also collected from the summit of Dansketinde downwards, some 15 rock samples of approximately 2kg each for Ebbe Hartz of Oslo University. Each sample was labeled with its GPS position reading and altitude and a photograph was taken of the site it was removed from. We are grateful to Ebbe for the opportunity to do this as it funded two out of the three helicopter flights needed.

We would like to thank Hague Andersson and all the staff at the Danish Polar Centre who facilitated the Expedition and organized many of the travel arrangements which were finalized by Kristbjörg Björnsdóttir of Air Iceland. Also the military personnel at Mesters Vig Airstrip who too were very helpful and kind. Freighting to Constable Point was efficiently arranged by Audrey Murdoch of Arbuckle, Smith & Co Ltd of Glasgow.

We are extremely grateful for grants which were received from the Mount Everest Foundation, The British Mountaineering Council, the Mountaineering Council of Scotland, and the Gino Watkins Memorial Fund. Also for equipment and food provided by Terra Nova Equipment Ltd, Lyon Equipment Ltd, Big Stone Ltd, and Walkers Ltd of Aberlour.

Technical points

- 1) If traveling via Heathrow (and probably other UK airports) ammunition now needs to be carried in a purpose made lockable, padded metal container – an MSR saucepan will not do!
- 2) The Bell 222 Helicopter currently based at Constable Point/Mesters Vig can only carry about 500kg to 2000m. However on the journey out it managed with about 600kg, but as the pilot commented, it was downhill all the way.
- 3) A1-Jet fuel was obtained at Mesters Vig. Despite this being kerosene-like in appearance, the one MSR XGK fitted with a gasoline jet worked much better, though one of the two other MSR XGKs performance improved noticeably after a thorough clean.
- 4) No glass jars or tins were taken. All rubbish (including the marker wands) was burnt prior to leaving base camp, and the entire residue was removed by helicopter.

SMC East Greenland Expedition 2003 – The Team



Stephen Reid (Leader):

49, British, Shop Proprietor,
Leads E1 - Scottish VI, 16 Alpine Seasons
(summer & winter) + 4 to other areas, Ultar
(Karakorum) 1995, Greenland 1996, Greenland
1998,
Member of AC, SMC, FRCC, CC



Colwyn Jones (Medical Officer):

45, British, Dentist,
Leads E1 - Scottish V, 10 Alpine Seasons
(summer & winter) + 4 to other areas, Greenland
1996, Greenland 1998, Greenland 2001,
Member of AC, SMC, Cairngorm MRT.



Jonathan Preston:

46, British, Mountain Guide,
Leads E3 - Scottish VII, 17 Alpine seasons, 4
Himalayan expeditions + numerous others,
Greenland 1996, Greenland 1998,
Member of BMGA, Cairngorm MRT.



Hamish Irvine:

39, British, School Teacher,
Leads E1 - Scottish VI, Good experience of UK
(Point 5, Zero & Orion Direct in a day!) and Alpine
climbing including North Face of the Matterhorn
and West Face of Petit Jorasses. 4 expeditions to
Pakistan including Traverse of Chogolisa, 1 to
China (Shiwakte 2 – 6000+m), 2 to India, attempt
on Makalu (Nepal), Peru (Alpamayo, Huascarán).
Member of SMC. Cairngorm MRT.

2 – **Greenland Information** - Stephen Reid & Colwyn Jones

**Greenland National Park,
The Staunings Alps,
Mesters Vig
&
The Danish Polar Centre**

The **Staunings Alps** lie 500km north of the Arctic Circle at 72°N to 72° 30' N and 24° to 26°W and cover an area of some 6000 km². They sit within, but close to the southern edge of, the largest national park in the world, the **North and East Greenland National Park**, which extends to 972,000 km², and was established in 1974. The Staunings are a complex range of granite peaks named after Thorvald Stauning (1873-1942), Denmark's leading Social Democratic statesman, social reformer, and an influential Government Minister from 1924 to 1940, who helped to shape the modern state of Denmark.

The Staunings Alps also lie within Scoresby Land, the northern part of a large peninsula. To the south is Scoresby Sound and Nordvest Fjord – reputedly the world's largest fjord. On the southern tip of Scoresby Land is the only settlement in the area, Scoresbysund, and the nearby airstrip of **Constable Point**. To the north-east of the peninsula Kong Oscar's Fjord divides it from Traill Island and on the shore here, looking out towards Traill Island, is small airstrip of **Mesters Vig**. Both Constable Point and Mesters Vig figure prominently in the annals of Greenland mountaineering.

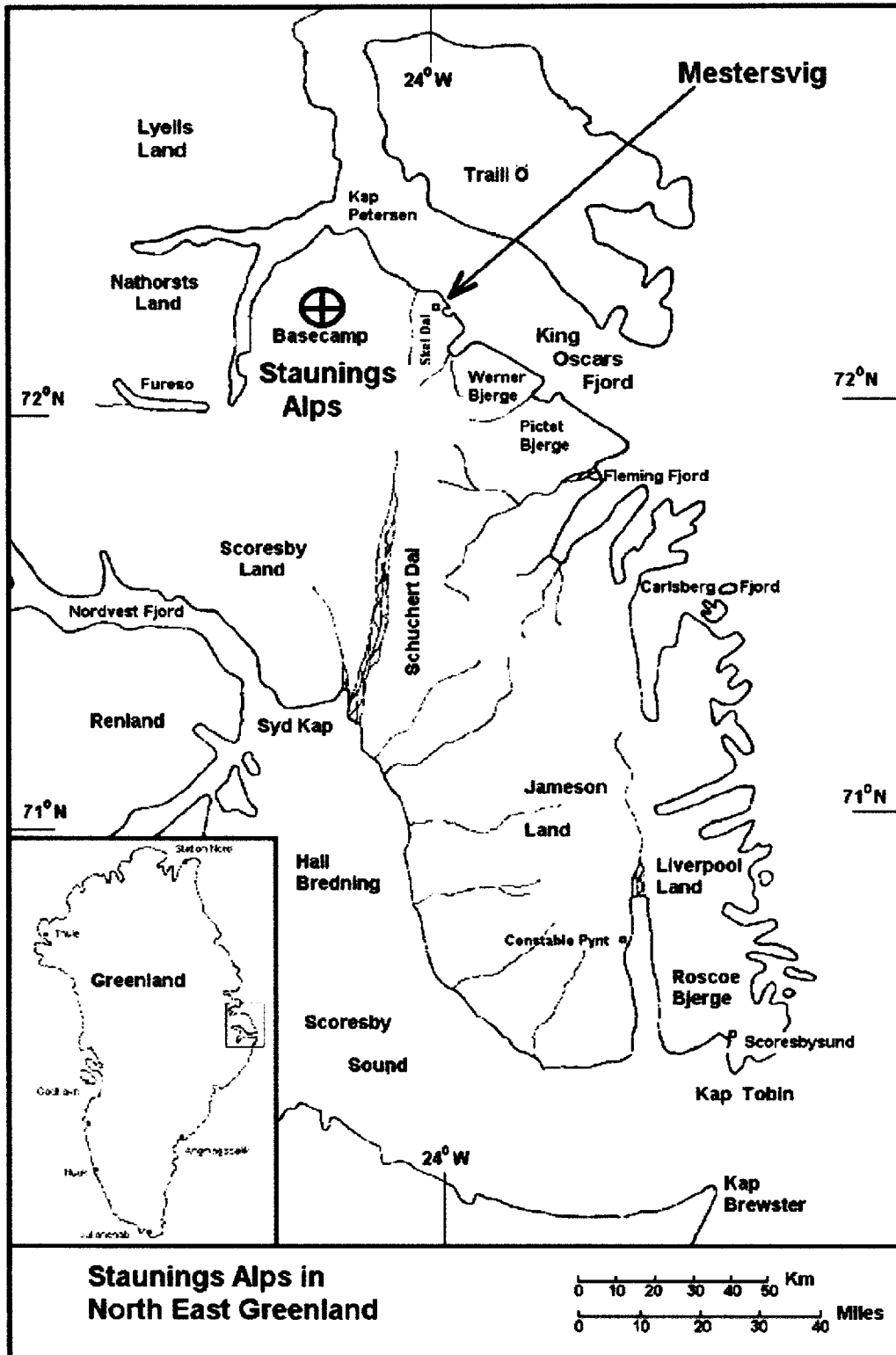
Statutory Requirements.

National Park permit. - By law expeditions of any type planning to visit the North and East Greenland National Park and Mesters Vig have to be approved. The process for getting permission to visit the park is handled by:

The Danish Polar Centre,
Strandgade 100 H,
DK - 1401,
København K,
Denmark.

Tel & Fax. (+45) 32 88 01 01
Dpc@dpc.dk

An application form can be obtained by writing to the above address or visiting the Danish Polar Centre website (www.dpc.dk). Expeditions must submit completed application forms by December 31st in the year prior to the planned visit. In addition, applications from any scientific expeditions have to be submitted at least 6 months before the trip is planned. The main contact at the DPC is currently Mr Hague Andersson (Logistics Officer), who is extremely helpful. However he is due to retire in two years time.



After Bennet 1972,
 Staunings Alps Expedition Guide,
 Gaston's Alpine Books
 & West Col Productions

The Danish Polar Centre website includes application forms for a **radio licence**, a **firearms licence** and a **certificate of insurance**, all of which are compulsory. Instructions for planning an expedition to the area can also be down-loaded. On receipt of the application the expedition is given a unique reference number for use in all further correspondence with the authorities.

Radio licence.

Expeditions have to take an emergency radio beacon (personal locator beacon: PLB). They can generally be hired or borrowed and are part of the standard equipment on yachts and other small boats. However, they must be rated to operate for at least 48 hours at low temperatures. A Greenland radio licence is required to operate a PLB. The application form for the radio licence and a photocopy of a current British radio licence must be sent to:

Greenland Telecom
PO Box 1002
DK - 3900 NUUK
Greenland

Again, this should reach the authorities 3 months before the expedition is due to leave. There is a charge for the licence of about £50 and we directly transferred money to a bank in Greenland to pay for this licence.

The PLB was one of the items inspected by the Danish Army personnel at Mesters Vig. One additional piece of radio equipment hired to us at Mesters Vig was a military field VHF radio. Verbal communication was therefore possible with Mesters Vig which was essential for coordinating the planned pick-up by helicopter. The radio frequencies were 3350mhz and 4050mhz and the agreed daily contact times were 0815 and 1815 hours. Reception was very poor at times – depending on the atmospherics.

Firearms licence

Expeditions to the North East Greenland National Park are required to carry a firearm for protection against polar bear attack. Polar bear deterrents such as thunder flashes and flares are also recommended but commercial airlines are often reluctant to carry these. It is probably better to purchase these sort of items en route in Iceland if possible. For Greenlanders the use of firearms (rifles and shotguns) is, it appears, unregulated in Greenland, except in the National Park. However handguns are illegal and it is also questionable whether a pistol of any calibre would be effective in stopping a polar bear. For the Staunings, a licence is required. The firearms licence application form, a copy of a British firearms certificate, and the charge of about £50 should be sent to;

The Chief Constable
PO Box 1006
DK - 3900 NUUK
Greenland

A UK firearms licence is also required for transporting a rifle in the UK. This is probably easier to obtain if one is resident in the countryside rather than a city. The Cumbrian-based member of the team had little trouble obtaining a 6 year permit allowing transport of a rifle and 50 rounds of ammunition, though it does not allow him to own the gun. We had the kind loan of a 0.303 BSA rifle. It was kept loaded ready to fire with the safety catch on when on the ice. Ammunition was purchased at a local gunsmith's in Penrith.

Repeated problems at both Glasgow and Heathrow suggest you should contact the airline and the airport authority, probably on a number of occasions, to ascertain what the carriage regulations regarding rifle and ammunition actually are. This is easier said than done, but it appears that the ammunition must now be carried in a locked metal box, purpose-designed for the carriage of ammunition, and the gun (with the bolt removed) needs to be in a hard case. Needless to say such heavy items can be left at Mesters Vig for the duration of the expedition.

Travelling through Iceland en route to Greenland, you no longer appear to need a firearms transit licence. It is sufficient to present the gun at Customs on your arrival. However it is probably wise to contact Icelandic customs at Keflavik well in advance of your date of travel. The rifle was retained by Customs in its carrying case at Keflavik and returned to us at Akureyri prior to the flight to Greenland. A similar arrangement operated on the return journey.

Rifles, ammunition, and polar bear deterrents (thunderflashes etc.) should always be declared at national borders and also on return to Iceland and the UK.

Freight

To cut the cost down, it is important to freight as much as possible to Mesters Vig in advance of the expedition. There are at least two ways of doing this, one being to freight items to Mesters Vig via Akureyri. However, more cost effective is a route going via Reykjavik to Constable Point. This is cheaper as Constable Point is a recognised airport. As our helicopter was coming from Constable Point to transport us, and as we had to pay for the cost of flying it from Constable Point to Mesters Vig anyway, the cost of the last leg was effectively free. It is certainly worth looking into and costing all the possibilities. Whichever method you use you will need a freight-forwarding company and we have found Audrey Murdoch of Arbuckle Smith very competent in this respect. Their address is:

Arbuckle Smith & Co Ltd
106 Abercorn Street, Paisley
Tel: +44 (0) 141-887-5252
Fax: +44 (0) 141-887-4461

Not covered was the cost of freighting gear back from Iceland to the UK. If possible this should be arranged in advance as there is generally little time to organise it on the return journey – there is a freight office close to Keflavik Airport.

Travel

In recent years the DPC has offered expeditions the service of coordinating all of the expeditions travel plans from the UK to the Staunings Alps. Although a few pounds could possibly be saved using budget airlines to Iceland, the beauty of using this service is that if the flight from Mesters Vig is delayed by the weather then the DPC are responsible (in theory) for reorganising accommodation and other flights. The package finally provided by DPC included return flights from London to Iceland, overnight accommodation within Iceland, internal transfer within Iceland and return flights between Iceland and Mesters Vig. However it should be noted that it did not include many of the taxi rides needed for transfers and that plenty of Icelandic Krone should be carried for this purpose. The arrangements are generally carried out by Air Iceland on behalf of the DPC. A useful contact is:

Kristbjörg Björnsdóttir
Air Iceland, Akureyri
Tel: 354-460-7082

Mesters Vig & Helicopter Transport

Mesters Vig is a Danish military base and airstrip with a permanent staff of two. However in the summer this is likely to be extended by the presence of a cook, various helpers, DPC staff, visiting scientists etc. Whilst mountaineering expeditions are treated courteously it is important to obey the many little regulations that are to be found on such a base and not to take facilities like



Mesters Vig – The Control Tower with the Staunings in the distance.

showers etc for granted – always ask. In theory, expeditions should either camp, or pay for the use of overnight accommodation. In practice, if you are using your own sleeping bags, you are generally given a bunk and cooking area for short-term use without charge. In Mesters Vig, expect to have yourselves and all your kit weighed, and all necessary permits scrutinised and your rifle and radio beacon checked. Also do not expect flights or anything else much to happen on time!

The SMC 1996 and 1998 Expeditions used a chartered Twin Otter aeroplane to get into the mountains combined with a seven day ski/walk out. But for this expedition it had been decided at an early stage to use a helicopter to transport the expedition from the Greenland coast into the Staunings Alps. This fitted well with the plans to be air lifted out of base camp at the end of the trip to avoid a long ski/walk to the coast and hence maximise climbing time. The decision was influenced by the DPC's proclamation that having done it once in '96, they would never land an aeroplane on Col Major again! It was also influenced by a fortuitous arrangement, brokered by the DPC, that in return for us collecting rock samples from Dansketinde, Ebbe Hartz of the University of Oslo would pay for two helicopter flights.

The Bell 222 helicopter currently in use in the area can carry up to about 800kg at sea level. However we found that in practice the pilot was not prepared to take off with much more than 500kg for the flight into the Staunings. For a four man expedition this meant that two flights (each ca £900) were needed. At Mesters Vig, the four of us plus all our food, fuel and equipment was weighed. The total came to 705kg. This included 25 litres of fuel (=25kg) of which we used less than 15, and in addition we had a great deal of food left at the end of the expedition: this was burnt. However it would have been foolish to try and save weight by cutting down on these items, as it is quite feasible that bad weather could maroon a party in the mountains for several days (if not weeks) longer than planned. In addition, as the helicopter is based at Constable Point (1 hour flying time from Mesters Vig), any usage from Mesters Vig incorporates the costs for the shuttle between Constable Point and Mesters Vig (approximately £1800) – and this needs to be paid twice. It is often possible to share this cost with others who require the use of the helicopter and Hague Andersson of DPC is very practiced and patient in organising such arrangements. However it is impossible to know in advance whether such costs will be shared, and expeditions should be prepared to pay the lot!

The Staunings Alps

The latitude of these mountains means that there is continuous daylight during the summer months, with the combination of the low angle of the sun and searing white glaciers contributing to the beauty of the area. During the short summer season settled anticyclonic weather and very dry air give extraordinary views especially early in the season. It is with good reason that Scoresby Land has been named the 'Arctic Riviera.'

Dansketinde (Danish Peak) 2930m is the highest mountain in the range and forms the natural centre of the impressive northern peaks. From there, a



Based on Geodætisk Institut 1:250000 series,
72 Ø. 2 Kong Oscar Fjord and
71 Ø. 2 Staunings Alper

number of huge glaciers radiate slowly outwards to reach the northern, eastern and southern coasts. In contrast those flowing steeply west have dangerous icefalls with a name for onerous travel. The mountains have a well-earned reputation for sound granite, soaring faces and complex ridges. Further south the rock is softer, more weathered and the mountains are more rounded, reflecting this difference.



The view south over the Staunings from the summit of Dansketinde

To allow ready orientation for those unfamiliar with the area, a central pass called Col Major (Majorpasset), which links the Bersaerkerbrae (Bersaerker glacier) to the east and the highest reaches of the Gully Glacier to the west, should be identified. Col Major lies immediately under the South Ridge of Dansketinde, and most parties attempting the peak will approach via this col. It is in fact a large almost flat area with an open easy-angled icefall dropping south-westwards to the Gully Gletscher. To the east a dramatic 500m serac cliff falls suddenly to the Bersaerkerbrae, but fortunately just north of this a wide couloir gives a straight-forward descent. In the only published mountaineering guidebook to the area (Bennett 1972), Col Major was accurately described as "*The heart of the Staunings Alps.*" Col Major was the base for the 1996 and 2003 expeditions.

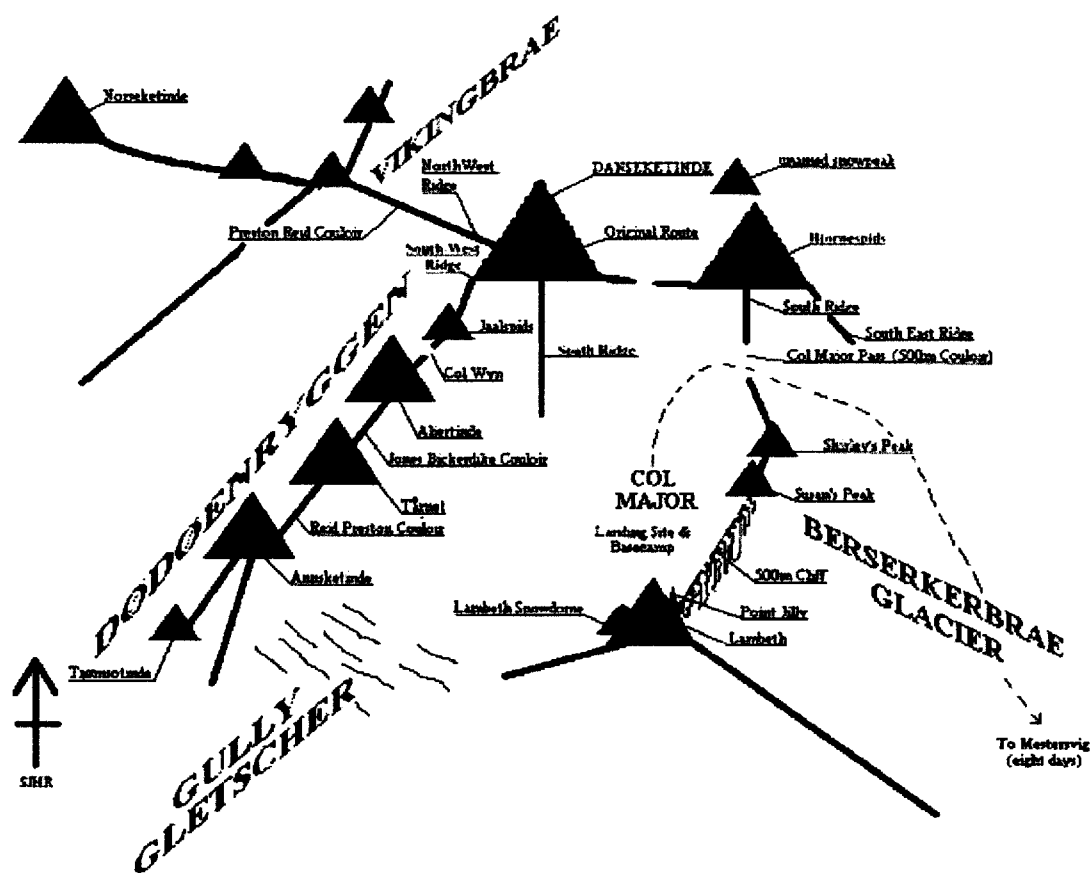
Scottish climbing has a long association with the Staunings Alps starting with the 1958 Scottish East Greenland Expedition. Many of these early pioneering trips of the late 50s, 60s and 70s were organised under the auspices of the Scottish Mountaineering Club, the Junior Mountaineering Club of Scotland Central and South West Staunings Alps in Northeast Greenland showing basecamp and the first ascents achieved in 1998 and 2001 and numerous Scottish and English Universities. In the 90s further successful trips to the area, rekindled interest among a small number of Scottish Mountaineering Club members. The best map we have been able to obtain is hand drawn



Map detail from Staunings Alps by Donald Bennet, (West Col 1972)

from an original in the guidebook written by Donald Bennett in 1972. The information our research and previous expeditions have provided has allowed us to correct and improve a little on the original. The commercial maps available are inaccurate and of such a small scale that they do not contain sufficient detail for serious expedition planning. Access to photographs from

aerial surveys, plus expedition reports from 1961, 1986 1989, 1994, 1996, 1998 and 2001, has also been of use.



The Col Major Area of the Central Staunings Alps

(not to scale)

This report records many details about the organisation, activities and outcome of the expedition and will, we hope, be of interest. Good organisation and logistics proved to be an important factor in the success of the trip and are covered in detail to give future prospective visitors to the area an idea of what is involved.

3 – Expedition Diary - Stephen Reid

- 2002 Permit application made to the DPC
- 2002 Grant applications made to the MEF, BMC, MC of S and GWF
- Early 2003 Application made for Greenland Firearms Permit and Greenland Radio Licence.
- Early 2003 Loan of Radio Beacon arranged from SMC. Contact made with Ebbe Hartz regarding collecting geological samples. Loan of VHF Radio arranged from Mesters Vig.
- Monday
16th June SR and JP deliver freight to Arbuckle Smith, Glasgow. It is shipped to Constable Point and thence to Mesters Vig, supposedly on the helicopter that is taking us to the Staunings (which will not cost any more), though in fact it is mistakenly sent before this.
- Sunday
13th July Travel to Heathrow. Heathrow has been chosen in preference to Glasgow as there are no flights to Iceland from Glasgow on a Monday, and the only flight to Mesters Vig from Akureyri is on a Tuesday. Iceland is very expensive and extra days spent in transit there are worth avoiding if possible.
- Monday
14th July Problems at check-in due to ammunition not being in a metal case – however we manage to get through in the end. Fly to Keflavik, shuttle to Reykjavik Airport and fly to Akureyri. Taxi to Hotel Edda which is a very pleasant place to stay with a vast smorgasbord supper at which we all (thinking of three weeks of dried food to come) totally overdo it. All of this (except the taxi and the supper was covered in the DPC's all inclusive cost).
- Tuesday
15th July Rush a huge breakfast in the morning to get to the airport for an 8am check in only to be told that it has been delayed until 10.30am. Flight eventually leaves at 11.30am. Fantastic 2 hour flight to Mesters Vig with fine views of icebergs in Scoresby Sund. All permits are checked along with the beacon and the rifle. 25 litres of A1 Jet Fuel is begged for the stoves and decanted into 5 litre plastic containers which we had remembered to bring with us. We also collect a military looking VHF radio to go with our rifle, and temporarily borrow back a copy of Bennet's Staunings Alps guidebook from the Control Tower library (presented by SR in 1996), as a nameless member of the team managed to leave the expedition copy behind. Everything is weighed and the total, including us, is 705kg. This is deemed too much by the pilot "Stig" and we have no option to agree to a second flight. CJ and SR get to go first and enjoy a fantastic flight up the Bersaerkerbrae. Although it would have been possible to land slightly closer to our



Photo: Landing on Col Major with Dansketinde in the background.

objective, we elected to establish base camp, as for the 1996 expedition, on the summit of Col Major, as this will give us fine views in all directions and will allow us to spy out any changes in approaching weather.

Unfortunately it also meant we were very

exposed to the wind – but in retrospect we probably still chose the best spot. Whilst the helicopter returns for the others we quickly erect the radio aerial and make a test transmission. HI and JP soon arrive and tents are erected, gear sorted and food prepared. The weather is fine and the South Ridge looks magnificent!

Wednesday
16th July

**Original
Route
Dansketinde**

A beautiful day. We climb Dansketinde by the Original Route. The bergshrund and various other crevasses cause more problems than we recall from 1996. On the summit it is quite windy so we quickly collect the first of several 2kg rock samples and then return via the route of ascent. On the way down we leave bamboo marker wands along the summit ridge section and continue collecting rock samples at 100m metre vertical intervals, recording altitude and positional co-ordinates for each one. Getting the samples is not easy as they have to be hacked from the rock, for which purpose we have bought two geological hammers, and we become adept at spotting weaknesses in the rock. We also equip the steepest part of the route (a couloir) for abseils. The full ascent and descent takes 13 hours. Back at base, it is very windy and spindrift is getting in everywhere. We cook a very quick supper and are glad to get in our sleeping bags.

Thursday
17th July

Extremely windy with lots of spindrift. A large cooking hole is excavated. This has plenty of room for four of us to sit in out of the wind, though it would have been better still had it had a roof.

Friday
18th July

Very wild again, though it calms down in the afternoon and allows us to do various essential jobs like sorting and labelling the rock samples.

Saturday
19th July
Sunday
20th July

Extremely windy with lots of spindrift and low cloud. Confined to tents all day. CJ starts to reveal hidden talents as Scrabble King. Extremely windy start but dies down later in the day, so much so that we explore the left-hand glacier basin between the South and

The Douglas Boulder

South-West Ridges. This reveals many further possibilities for future expeditions including the magnificent South Pillar. HI then succeeds in crossing the bergshrund and SR takes the first step onto the South Ridge at the lowest point of the toe of the feature that we have christened the Douglas Boulder. Although horrendously loose at the start, after two pitches the climbing soon improves and gives a thoroughly enjoyable and rather unexpected alpine ridge-style climb of AD standard. Having reached Snow Col, we descend eastwards, leaving a fixed rope over the bergshrund, and then walk and ski back to base. The time taken on this lower section of the ridge was about 2½ hours, though we were about 9 hours away from base in total.

Monday
21st July

Rest Day. Very windy to start with, but dies down later to give a perfect day with blue skies.

Tuesday/
Wednesday
22nd/23rd July

Attempt on the South Ridge of Dansketinde

Perfect weather. Up at 2am. By 3.30am we are skinning towards the fixed rope that we left over the bergshrund. By 4.30am we reach Snow Col. JP climbs a superb pitch up a steep slab at V Diff standard. Above SR leads a harder pitch with slabby holds, quite tricky in big boots. We move together for several hundred metres to a breche where SR and JP climb a steep wall whilst CJ and HI bypass it on snow to the right. A superb but easy ridge leads to another breche. CJ leads the hard **Colwyn's Pitch**



to the right to regain the ridge above. A huge pinnacle (the **Great Tower**) is outflanked on rather loose ground on the right and the ridge is eventually regained. Several pitches of mixed climbing, quite steep, lead by independent lines to a small snow ledge on the crest at the left hand side of the foot of a huge granite slab containing a fine crack. JP leads up what is soon christened **JP's Slab**. It gives a fine 50m jamming pitch at the top end of the VS grade. En route a roof must be overcome and above this the crack widens and forces a traverse onto the right wall where exposed climbing on "chickenheads" provides the key to regaining the crack – an impressive lead with a sack on. Above, SR wastes rather a lot of time trying to

Photo: Hamish, with the South Ridge towering above him.

force a direct line up the buttress above, only retreating when he finds that aid would be required (for him at least). He takes an

obvious line to the right instead, and JP continues this to regain the crest. A very rickety horizontal pitch leads to a belay under **Chimney Buttress** which we thought would go easily but in fact is very undercut and loose-looking. Fortunately HI spotted the hidden ledge to the right and JP pulls off a technical lead (5a) in boots to traverse to the right arête of the buttress and so gain **Hamish's Ledge**. This is very shattered but leads to easier ground. The climbing above gets harder with height (JP makes another good lead up verglassed slabs) and eventually a halt is called on a snow ramp under a large undercut **Pinnacle** and steep (seemingly impending) very difficult looking headwall. Two potential lines exist up this, but both look very hard and are coated in snow and ice. It is now 11pm and everyone is very



tired – we have been on the go for 20 hours. It is also very cold and quite windy and no-one seems to have the energy or enthusiasm to tackle what has all the appearance of grade VII mixed climbing up the **Impossible Wall**. Various members of the party climb the snow ramp to peer round the corner only to scuttle back down again – the view there is even less encouraging. After some time it becomes apparent that what is reluctant to go up must go down, and so a retreat is organised. The 15 or so abseils down the face below us go remarkably well all things considered: no ropes are jammed and little gear is abandoned other than abseil tat, but it is a very exhausted and despondent team that finally returns to base camp at 8.30am, 29 hours after setting out. Remainder of day spent resting!

Photo: Jonathan abseiling off the South Ridge.

Thursday
24th July

Enforced rest day due to low cloud. SR has hatched a plan to reascend Dansketinde by the Original Route and descend the South Ridge to our high point to see if it will go – fortunately for the ethics of the expedition, this plan is destined not even to start.

Friday
25th July

Yet another day of low grey cloud forestalls implementation of the plan. By 2pm though, the cloud has lifted a little and, as our sacks are already packed, we ski up the west branch of Col Major between the South and South-West Ridges. This gives us a fine view of the **South Pillar** which rises directly to the summit from between the two ridges and looks to be a brilliant line. Also the narrow couloir to the left of the Pillar which seems as though it

**New Routes
on the
Jaalspids**

would make a superb route in the early Spring when it should be free from rockfall - although a fast team could probably manage it in the summer provided they timed it correctly. We split into pairs and climb two 6 pitch easy new routes on the diminutive summit called the **Jaalspids** (2100m, first ascended by JP and SR in 1996). Whilst good lines, these are rather disappointing climbs due to the amount of loose rock on them. We return via **Col Wyn** (first crossed by JP and SR in 1996 and named after CJ, leader of the '96 expedition) and SR and JP have the pleasure of introducing Colwyn to Col Wyn! Return to camp in worsening weather.

Saturday
26th July
Sunday
27th July

White out conditions all day – rest day.

White out conditions most of the day. During a slight lifting, JP, CJ and HI decide to skin a short way up the flank of **Lambeth**. They return after 1 hour, reporting difficult snow and poor visibility.

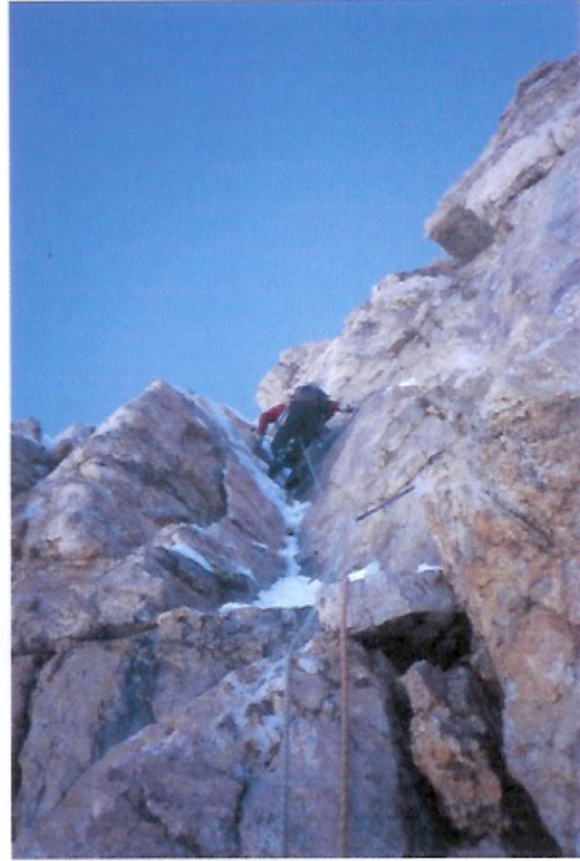
Monday
28th July

A wild night with lots of new snow. It continues snowing much of the morning, but gradually clears until by evening all the peaks are visible though there is still high grey cloud everywhere.

Tuesday 29th
July
&
Wednesday
30th July

**First Ascent
SW Ridge
Dansketinde
TD+**

A much better day. The plan to repeat the Original Route and descend the South Ridge has been abandoned. Instead we have a plan to attempt the **South-West Ridge** of which we obtained a good view from the Jaalspids. Our plan is not to try the crest of the ridge, but to gain and follow a couloir line about 50m below the crest on the West side. We have decided to do this as we think that the direct line up the crest might have some 'stopper' pitches on it, and we do not want another retreat. Also SR claims to have seen that the upper half of the proposed line consists of easy snowfields, though the other members of the party seem doubtful of this. Even though it looks easier, the couloir line itself is itself a dubious prospect as it disappears into a maze of walls and there is no certainty that it will go. We leave base camp at 8.20pm and make slow progress in heavy snow up past the Jaalspids to a point where we can easily cross the bergshroud. HI forges ahead as usual, up straightforward snow to the start of the ridge proper (11pm). Above us towers the feature we have christened the **Fortress**. SR and CJ avoid this by climbing two pitches through a rockband to its left to gain a snowfield. This is traversed up and leftwards to a second rockband which CJ succeeds in breaching via a chimney. The ground ahead is steep and quite daunting, and though it would be possible to abseil a long way into a lower and very wide couloir, it is not an attractive proposition. Instead SR finds a cunning downwards traverse (IV)



Above SW
Ridge: (left)
Jonathan on a
tricky mixed pitch
and (right)
Colwyn on the
following pitch, a
groove leading to
the upper
snowfield.

through a rock band and thus we soon gain another snowfield which leads into a steep couloir. HI and JP swap leads up this with JP climbing a steep water ice pitch (V) and then they continue to alternately lead up two more pitches above of difficult mixed climbing (both V). This leads to an easing at a point at just above the level of the summit of the **Great Gendarme** and a seeming impasse as steep rock walls appear to bar further progress. SR pokes tentatively round a corner and finds a tricky mixed pitch (V) which gives access to the base of a fine groove. CJ romps up this (IV) and gains the mythical upper snowfields – mythical no longer! These provide easy climbing for three long pitches to what turns out to be the **Final Tower**. This tower is split by a couloir which branches into three. The left-hand fork quickly steepens and looks desperate, and, whilst the right-hand fork looks easier, it is uncertain what it would lead to. In the end it is decided to follow the middle branch which JP duly does. It turns out to be harder than it looks (IV). HI then leads a pitch of equally tricky mixed climbing (IV) before getting into a bit of a climbing cul-de-sac. Fortunately JP has spotted a groove (III) to the left and launches up this. As he pulls out of the top of the groove, a loud yell startles the rest of us into wakefulness and announces that he has reached a junction with the **North-West Ridge**. We



Above SW
Ridge: (left)
Colwyn on the
upper snowfield
and (right)
Hamish on the
Western Summit.

all gather together and watch HI lead the final pitch up a short chimney to the **Western Summit** which he reaches at 6pm. Here we sit in the sun under a clear blue sky and enjoy fine views in all directions. Eventually we reluctantly leave the tower by abseil and traverse the easy snow arête to the **Main Summit**, before descending via the **Original Route**. We reach base camp at 1.45am – 29 hours after setting out.

Thursday 31st
July

We awake around noon to a very cold cloudy day of mist and wind and the occasional snowflake and feel very smug with our timing of the day before. Not only did we have superb weather, but also we have realised that our route would have been lethal if we had not climbed it at "night", as direct sun would have released all sorts of ice and stonefall, not to mention wet snow avalanches.

Friday 1st
August

Not a bad day, but SR's enthusiasm to have another bash at the South Ridge is met with non-committal noises from the rest of the team. SR makes himself thoroughly annoying by peering through binoculars at the upper section of the South Ridge and trying to convince anyone who will listen to him that it looks easy above the Impossible Wall. Despite this (over?) enthusiasm, the remainder of the team vote for further rest by firmly refusing to leave their sleeping bags for most of the day.

Saturday
2nd August
& Sunday
3rd August

**First Ascent
South Ridge
of
Dansketinde
TD+**

Over breakfast JP remarks that it looks a good day for the South Ridge. HI agrees, but CJ cannot be persuaded and announces that he is happy to potter about base camp and rest some more. Blue sky and sunshine encourage us as we pack our sacks and much deliberation is spent over what gear and food to carry – a minimal approach is adopted, with one bivi-bag between three and as small a rack as possible. We take no stove, but each carry two litres of water, and plenty of snack food. We leave base camp at 4.15pm with a notion to climb the lower section at night and so reach the Impossible Wall just as the sun gets to it early next morning. This all goes to plan. HI once again becomes "Bergshrund Poodle" and leads us up to **Snow Col** where, at 6pm, SR starts the ball rolling by climbing the first wall – a delightful pitch in the evening sun. JP leads the second pitch and,



Above South Ridge: (left) Hamish on JP's Slab with the ridge stretching out below him, and (right) Stephen starting up Impossible Wall.

having now done this twice, we would recommend to future parties that it is probably worth stopping and putting rockboots on for this section. From there HI and JP swap leads until the second brèche where SR takes to the west side of the crest and finds a much easier alternative to **Colwyn's Pitch**. JP climbs up to a bay under the **Great Tower**. Here SR insists on avoiding the descending traverse by climbing a frighteningly friable pitch up a quartz groove in the tower. JP manages to evade continuing up the tower by traversing a ledge system to the right and so regain the original attempt line. With hindsight this diversion was a mistake and lost us some time, however it might repay a future



Above: Jonathan
at the brèche
above
Impossible Wall.

chilly due to annoying patches of mist that linger around the summit of the Hjornespids and blot out the sun. Infuriatingly the rest of the sky is blue, but where we are, exposed fingers very

party to investigate climbing the tower directly as a sound crack system rises from the **Quartz Ledges** and it is possible that this could be gained on better rock from the left. Also descent from its summit could probably be affected by abseil. We continue up HI's line to the foot of the **JP's Slab**. Again a future party might like to climb the superb looking slab to the left to the same point. SR finds leading the slab much easier without a rucksack on, though HI, to whom falls the doubtful pleasure of hauling said sack, does not seem totally convinced. Continuation up the pitches above, avoiding **Chimney Buttress** as before, is straightforward enough now that we know where we are going, though JP manages to straighten up his pitch that leads up to the foot of the **Impossible Wall** – the rock climbing proves to be easier throughout as much of the snow and virtually all the verglas that was present on the first attempt has since melted. Unfortunately what we hoped would be a warm sunny morning is in fact rather



Above South Ridge – the Headwall: Reid's Hole takes the dark cleft on the right.

quickly get frozen, and belayers left for long on stances start to shiver uncontrollably. SR nervously opts for rockboots and no sack before attempting the **Impossible Wall** – but never has a rock feature been so misnamed since the day the Inaccessible Pinnacle was christened. After a bouldery start, an easy traverse leads to the right-hand-crack which gives a few moves of Severe before the standard drops to V Diff! At the top of the crack a straightforward traverse leads left to a stance below **Pinnacle Brèche**. HI leaps into the lead and quickly gains the crest which gives a interesting and exposed snow pitch (clad as he is in rockboots). JP finds an easy way through the rockband above and we all emerge blinking in the sunlight to **Sunshine Ledge** where a well-earned breakfast is consumed and we bask in welcome warmth. Above us, we know, lie snowfields, so SR and HI redon big boots (JP has never taken his off) and we all put on crampons. Fairly straightforward climbing up these on snow and occasional rock for three pitches, following the line of least



Above: South Ridge - Stephen on the Red Groove, with the summit block in sight.

resistance, leads to the awe-inspiring final headwall. This, we had initially reckoned to outflank on the right, but JP stops under a chimney towards the right-hand side and announces a possible through route. Unfortunately he also announces he has run out of rope, and so SR plus a rucksack (which he quickly decides he would rather have left behind) hack and back and foot their way up steep ice (V) until they collectively pop through **Reid's Hole**. A short slab section soon gains the upper snowfields and the end is in sight. HI takes the lead for a long sweeping snow traverse, JP continues this line around the foot of a subsidiary summit tower, and SR climbs the fine **Red Groove** to emerge right beside the summit block. We have finally made it: it is 5pm. Food is eaten, photos taken, and names added to the scruffy scrap of paper hidden in the old sardine tin under the summit cairn. We yell with delight at base camp in general and at Colwyn in particular, and he must have heard us for we are startled by the report of an echoing celebratory gunshot. Then the long descent begins with HI collecting his marker wands and SR, as is his wont, setting up the abseils. The snow is trickier than it was, with legs disappearing up to thigh level at almost every other step, and bergshrunds and crevasses creaking ominously as spread our weight over them and hardly dare to breathe. HI once again comes into his own on the uphill section where he kicks steps up snow as fast as some of us can follow in them. Finally, after what

seems an endless descent down waist deep sugar, the skis are reached and we skin up the toilsome slope to base camp for the last time. CJ is there to greet us and a brew is on the boil.



Above: South Ridge – Jonathan, Hamish and Stephen on the summit.

We flop down and grin. We are so exhausted that it is hard to take it all in: it is 10.30pm and we have been on the go for 30 hours. However our labours are not over, for the helicopter is due in 12 hours and there is a lot to sort out. After a welcome drink and some food, we set about building a huge bonfire on the snow. Everything we can spare goes on this as we are determined to get the weight down in a bid to only use one helicopter flight on the return journey. This includes virtually all the leftover food and even SR's old ropes whose furry appearance has not been improved by the 15 abseil retreat. What with the whisky we have left, and any amount to eat before it is burnt, it is quite a jolly party.

Monday
4th August

We are up by 8am and pack everything away for the helicopter which arrives at 10.40am. It is a grey overcast day, which makes it quite a good day to leave on, but I am glad we can still see the South Ridge. Our ploy to make ourselves and our baggage as light as possible succeeds with the pilot grunting "Hmm, heavy!"



But it's downhill all the way!", as we take off. We keep glancing back to get a last glimpse of the South Ridge, Dansketinde, Col Major etc.

Photo: Relaxing outside the "Grand Hotel" with a well-earned beer.

Beautiful as it is, we doubt we will be back again. On the way we land briefly at Skeldal where JP collects a final rock sample, and then all too soon our magical flight is ended and we land at Mesters Vig and return with a bump to the world of rules and regulations. These we soon break by taking a much needed shower in the block that has a shower sign marked on it, instead of the neighbouring one that has no sign. On the plus side we are allowed to use bunks and cooking facilities for free, on the downside the DPC representative gives us a real dressing down about the showers. We are cheered up by watching two of the staff exercising the huskies with a sort of go-cart that goes at up to 30kmh, and then sobered to see a memorial to two other staff who had drowned only a few years earlier when on the same task in winter and huskies pulled their sled onto thin ice in the bay. CJ, HI and SR retire to the shore to shoot off the remaining ammunition rather than attempt to take it back through Heathrow. As, after firing over 50 rounds, many from less than 20 metres, only 4 hits have been scored, we strongly doubt the wisdom of a firearm as a polar bear deterrent – a loud drum might be just as effective, and considerably easier to get through Customs.

Tuesday
5th August

After considerable delay, we finally leave Mesters Vig, in the company of numerous scientists who have been working up the coast, and also our baggage as it seems simplest and possibly cheapest (no-one can tell us for certain) to ship it this way. One of the scientists says that a polar bear passed right through their camp one night, but fortunately did not eat anyone. We land at Reykjavik, and have great difficulty in sorting out transport with all our bags and luggage. It transpires that it is too late to take it to Keflavik and finally we hire the largest taxi we can find and get to our hotel. A slap up meal (HI and CJ indulge in roast seagull) at a nearby restaurant ensues, followed shortly afterwards by a slap up bill.

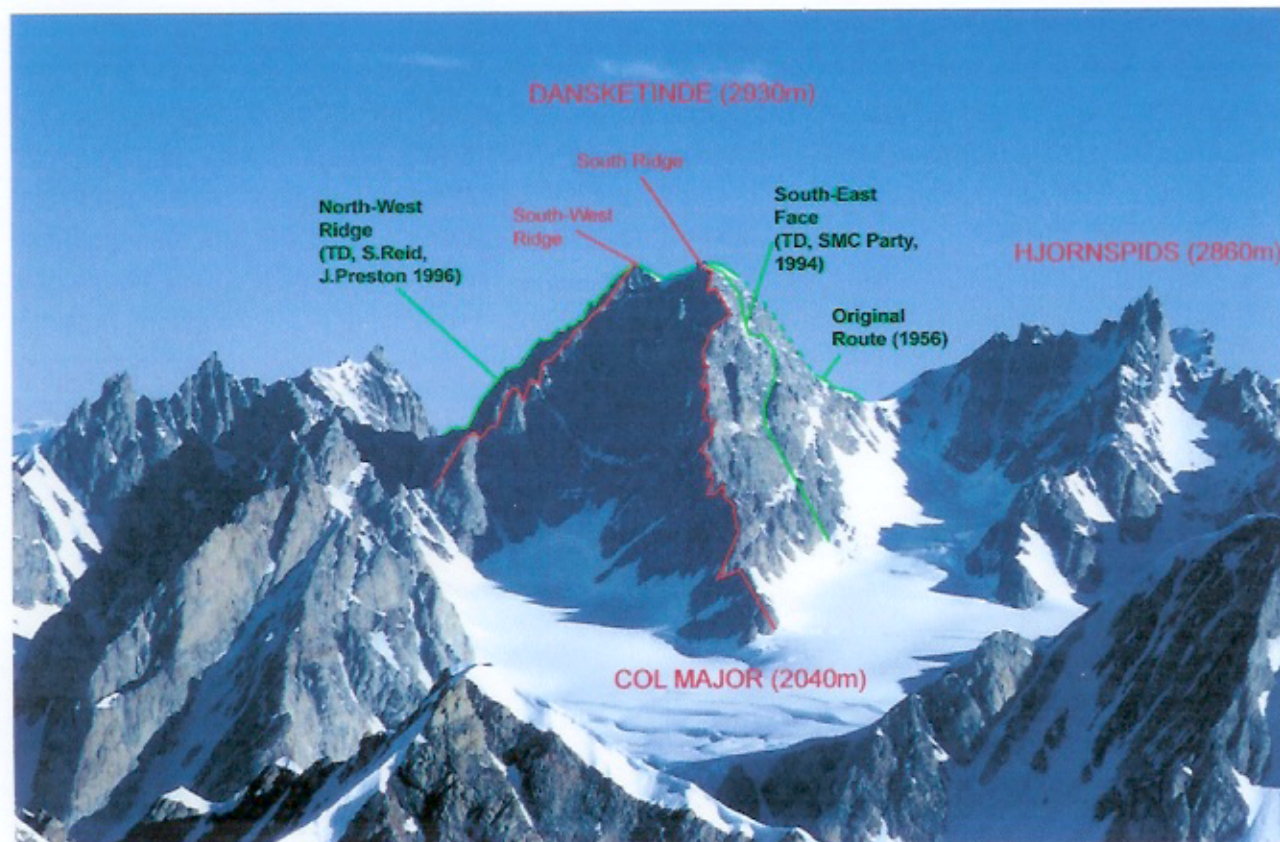
Wednesday
6th August

All flights from Keflavik appear to leave at the same time every morning with the result that several thousand people are attempting to book in simultaneously. Somehow we manage to collect the rifle and get it through customs, book the bulky luggage in at the freight terminal, and get aboard our early flight for home. At Heathrow, despite all the security precautions, Iceland Air manage to lose the rifle which is eventually discovered endlessly circulating an ordinary luggage carousel, and CJ, as outstanding Col Major Scrabble Champion of 2003, is presented with the Scrabble set. Normal life has resumed.

4 - Route Descriptions - Stephen Reid

South-West Ridge of Dansketinde (2930m) 970m TD+

This route was actually climbed by a mixed line running some 30 to 50m below the crest on its west side. From our observations we feel that climbing the true crest is probably possible but would include a great many technical rock pitches some of which are likely to be Extremely Severe in grade.



Dansketinde showing the lines on the South Face

Cross bergshrund on east side of ridge and climb easy open snow gully (150m) to a snow col under the **Fortress**.

1 40m (D). A broken pitch up and then down left leads to a chimney.

2 40m (VD). Climb the chimney and then make a tricky traverse left to a broken rib.

3 200m (II). Climb up and move together up a rising traverse leftwards on snowfields to the base of another chimney on the left side of a rock band.

4 35m (S). Climb the chimney to a belay below a snow rib.

5 40m (IV, 5). Climb the rib and traverse leftwards on snow and ice to a rock buttress. Make an awkward descending traverse on this on an unlikely-looking line of flakes to snow and belay on the broken rib beyond. Above lies the top of the **Fortress** and the base of the **Great Gendarme**.

6 45m (III). Traverse left across the next rib via the obvious shelf and then descend awkwardly to a snowfield. Traverse left on snow and ice to some isolated rocks.

7 70m (III). Move together up the obvious narrowing couloir, overcoming a short ice pitch which leads to a good spike belay on the left.

8 35m (V, 5). Climb the narrow gully on steep ice for 20m and then snow, to a rock belay on the left.

9 35m (V, 5). Hard mixed climbing up the continuation chimney.

10 35m (V, 6). Continue up the steep gully to a very difficult move to pass an icicle. More hard climbing leads to a snow rib and go up to a belay on rocks. This point is slightly above, and about 30m horizontally from, the summit of the **Great Gendarme**.

11 40m (V, 5). Follow the easy snow ramp ahead. A hidden wall round the right arête succumbs to a devious line, first on the right, then on the left. Climb up onto the left-hand wall, and traverse left along a ledge to the base of a fine V-groove.

12 50m (IV, 4). Climb the groove to gain the **Upper Snowfield** and belay on rocks a short way up this.

13 50m (II). Following a vague snow-rib until a short traverse left can be made to some isolated rocks.

14 50m (II). Continue up the snowfield following a leftwards-rising line to belay on shattered rock on the **Upper Tower**.

15 60m (II). Climb up a few metres and take a leftward-rising snow ramp to a snow rib. Follow this up to a steep wall and (moving together) traverse left to belay on the left wall of the entrance of a couloir in the **Upper Tower**.

16 40m (IV, 4). The couloir has three branches. Climb up snow to the centre branch and follow this and/or its left rib to a stance on the right just above its top.

17 40m (IV, 5). Climb up snow on the left to awkward moves on steep rock. Continue up steep mixed ground above to an easier area and a rather loose belay.

18 50m (III). Traverse leftwards a little then climb up into a fine groove which leads to a sudden exit onto the **North-West Ridge**.

19 25m (III). As for the **North-West Ridge**. Traverse easy snow to a short chimney and climb this to the **Western Summit**.

An abseil descent from the **Western Summit** leads to a fine but corniced snow arête. Follow this to the **Main Summit**.

Stephen Reid, Colwyn Jones, Jonathan Preston and Hamish Irvine on 29th and 30th July 2003.

South Ridge of Dansketinde 2245m TD+

This route was climbed in two sections, with an obvious break at **Snow Col**.

South Ridge of Dansketinde - Douglas Boulder (Lower Ridge) 500m AD

Cross bergshrund on west side near to lowest point of ridge and traverse round base of ridge to a few metres above lowest point on east side.

1 50m (VD). Climb up right then left to overcome a bulge, then follow the crest of the ridge to a large scree scoop (a very loose pitch).

2 200m. Move together up scree to gain solid rock crest on the right and follow it to short snow section. Continue up to superb horizontal crest which leads to a belay under the right wall of a shattered tower.

3 50m (MS). Climb loose right wall 4m right of crest to easier but loose ground and carry on to gain the summit of the **Douglas Boulder**.

4 100m (VD). Drop down to snow and follow line up left side of the **Lump** to gain its top, then descend to snow and the foot of the **Horn**. Follow line first right, then left and round to the summit of the **Horn**.

5 100m (VD). Descend down arête leading to **Snow Col** and cross this to the base of the **Main Ridge**.

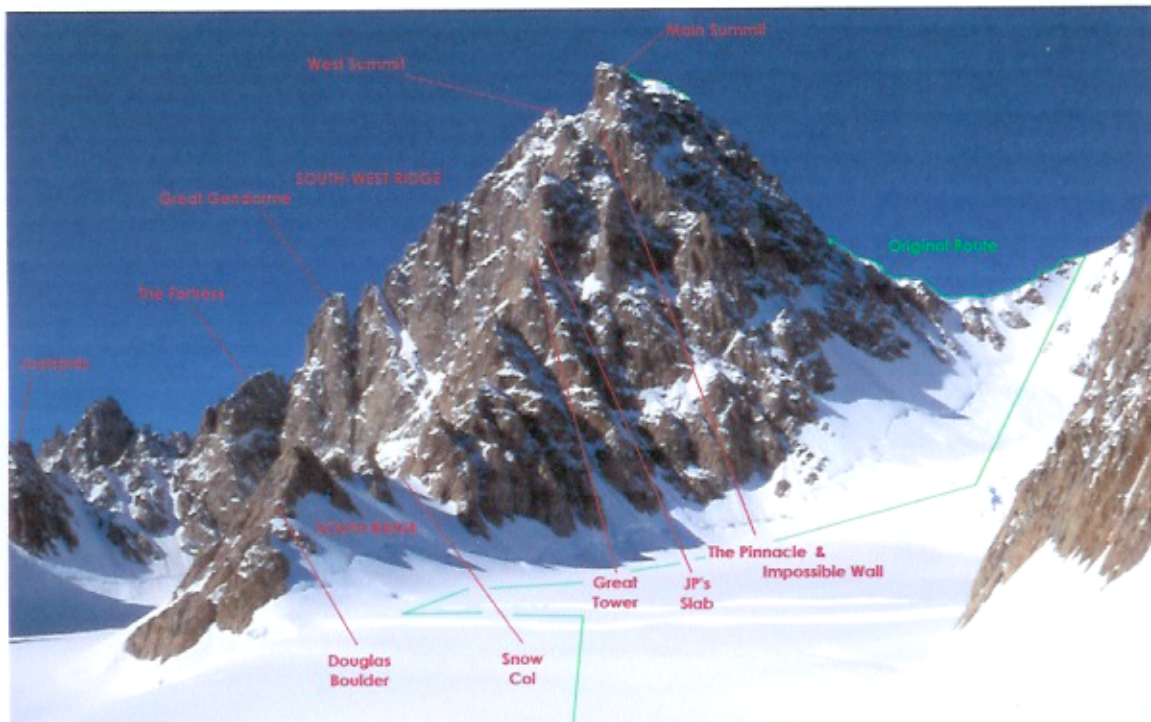
Stephen Reid, Colwyn Jones, Jonathan Preston and Hamish Irvine, 19th July 2003

South Ridge of Dansketinde - Main Ridge 1545m TD+

Cross bergshrund on east side of ridge under **Snow Col** and climb straight up to the col and belay under a fine slab.

6 35m (MS). Climb the excellent crack near the left edge of the slab. Belay on a large ledge.

7 45m (HS). The wall above is climbed rightwards to the arête, then up and left via a groove to easier ground. A tricky pitch on sloping holds.



Dansketinde showing the major features of the South and South-West Ridges

8 100m. Move together up the ridge to a brèche.

9 100m. Overcome an overlap, then move together up the ridge to a brèche.

10 50m (S). Climb the buttress ahead via a blocky groove (or outflank it on the right via scrambling)

11 250m. Move together up the fine crest to a point where the ridge rises sharply. Traverse the right flank on a broken ledge to a bay and climb straight up the buttress, exiting via a chimney onto the crest near a pinnacle. Follow the crest to a descent into a brèche.

12 50m (VS). **Colwyn's Pitch**. Gain and climb a scoop on the right. Or avoid this by descending slightly leftwards and climbing a broken rib to the same point (VD).

13 40m. Scramble up right over loose blocks and belay under a quartz groove in the *Tower*.

14 50m. Descend loose rock down rightwards and then up to a scree gully to the right of the *Tower*. Alternatively, climb the friable quartz groove leftwards to a ledge and then traverse right to a similar point (VS - not recommended).

15 100m. Scramble up the snow gully to a brèche.

16 50m. Follow the ridge and broken rock to a steeper wall.

17 50m (S). Climb into a groove above, and follow grooves and ribs to gain a left-slanting snow ramp. Go up this to a fine stance under the left arête of a superb slab containing a jamming crack. Alternatively (at the same grade), move right along a ledge a few metres and climb a 2 metres up a groove before pulling out right onto an exposed arête. Follow this to the snow ramp.

18 45m (VS). **JP's Slab**. The slab gives a superbly exposed and sustained pitch. Once over the roof, the crack widens and is left for a traverse right on "chickenheads" before regaining it above.

19 50m (S). Make a rising traverse rightwards up a broken groove to a slab. Cross this to a huge block belay.

20 50m (S). Surmount the block and continue up the obvious line to the crest.

21 30m (VD). Continue along the exposed crest to a belay on the right of a huge block under **Chimney Buttress**.

22 45m (VS). **Hamish's Ledge**. Horizontally rightwards on the arête is a short grey groove. Gain this, either by moving up and traversing rightwards, or by descending until underneath it and climbing up to it via a grey slab. From the top of the groove step down to a rubble ledge and traverse this rightwards, until it's end where it is necessary to descend downwards a few metres more and then traverse rightwards further to block belays.

23 45m. Climb diagonally rightwards to a leaning pinnacle.

24 50m (S). Climb up to a short corner. This leads to a broken groove. Exit onto a left-slanting snow ramp and go up this to a good flake belay under the **Pinnacle** and 15m below the crest. Alternatively the short corner can be avoided on the right and tricky slabs climbed to the snow ramp which is followed to the flake belay.

25 35m (S). **Impossible Wall**. Despite its daunting appearance this is actually quite straightforward so long as it is ice free. Move up from the flake belay and traverse right to a ledge. Keep traversing rightwards under a broken roof to a rightward-slanting groove. Go up this to its top, and traverse easily left to a stance 5m below **Pinnacle Brèche**.

26 25m (III). Climb up to **Pinnacle Brèche** and follow the snow crest to steeper grooves.

27 40m (VD). Step left round a rib and climb the broken wall to **Sunshine Ledge**.

28 50m (III). Go rightwards up snow to a corner. Pull up to a ledge and traverse left to the edge. Go up 3m and traverse back right to snow. Follow this up rightwards to rocks just before a brèche.

29 50m. Cross the brèche and follow snow, first right, then left, to belay just above a short rock band.

30 50m (III). Break through another short rock band to gain a right-slanting snow ramp under the impressive headwall. Follow the ramp to belay under an obvious chimney near the right end of the headwall.

31 25m (V). **Reid's Hole**, succumbs to strenuous back and footing and water ice techniques. Exit via a through route onto a ledge and climb the slab on the left to a wide snow ledge.

32 100m (II). Traverse up rightwards on snow and ice to a brèche and then downwards under a rock tower on the right, until a 2m climb leads to a square platform.

33 45m (III). Step up off a large flake to gain a ledge on the right and traverse rubble ledges rightwards until under the **Summit Tower**.

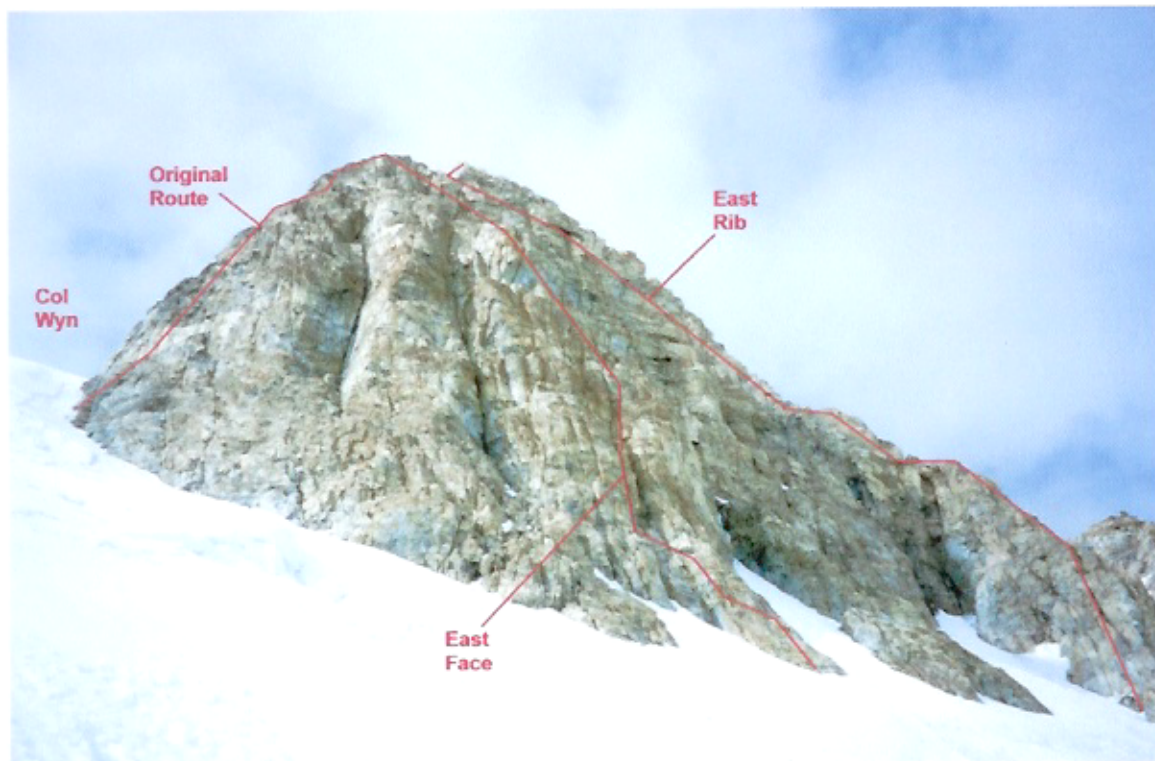
34 30m (HS). **Red Groove**. A fine pitch which leads directly to the summit.

Stephen Reid, Jonathan Preston, Hamish Irvine, 2nd and 3rd August 2003.

The route had been previously been ascended as far as the top of pitch 24 by Stephen Reid, Colwyn Jones, Jonathan Preston and Hamish Irvine on 22nd and 23rd July 2003. From that point a direct descent of the flank of the ridge was made in 15 abseils and 100m of down-climbing.

New Routes on the Jaalspids (2100m), The Staunings Alps, East Greenland

On the east side of the Jaalspids are four rock spurs. These offer good routes for a short day, although the East Rib was somewhat marred by loose rock. There are several more lines to be done here as can be seen from the picture.



The Jaalspids showing the new lines on the East Face

East Face 250m AD-

Cross the bergshrend and climb snow to a start at the foot of the second spur from the left. Climb a pitch up this (S) rising leftwards to cross an obvious chimney roughly at its base. Climb a fist crack on the left of the chimney (crux). From here head upwards to pass a grey overhang to the right and continue in the same line to join the original route which is followed to the *South Summit*. Six pitches in total.

Hamish Irvine, Jonathan Preston, 25th July 2003

East Rib 250m PD

An obvious line but marred by loose rock. Cross the bergshrend and climb and then traverse snow to a start at the foot of the right-hand-most spur. Follow the rib and then broken ground to under an overhanging wall directly under the *North Summit*. Bypass the wall via a ramp on the left and climb the steep wall to the top. Six pitches in total.

Colwyn Jones, Stephen Reid, 25th July 2003

Descent was made via the easiest line available, based on the **Original Route** (PD+, Preston & Reid, 1996), to Col Wyn, and thence via easy snow to a bergshrend crossing in the same place.

5 – Mountaineering Equipment – Hamish Irvine

For these notes, the equipment used on the expedition has been grouped into four areas: camping, skiing, mountaineering gear and clothing.

Camping:

Camping on a snow covered glacier with persistent wind and air temperatures frequently around -5°C meant that insulation and wind proofing were our paramount concerns.

Tents used were Terra Nova Quasars, each giving good accommodation for two climbers and adequate storage space. These stood up to the weather very well even though they were not equipped with snow valances, and so spindrift did come under the fly. Snow valances would be useful!

With limited storage within the tents, equipment and food was simply stacked in boxes outside and came to no harm, although a tarpaulin would have been useful to protect this from the elements without much additional weight.

Comfort when in the tents was assured by double layers of insulation between our sleeping bags and the snow – a Karrimat plus a Thermarest, or similar. Stephen used an air-plus-down variant on this, called an Exped Down-Air Mattress, which provided a high level of comfort as well as good insulation. Inflating it was, however, very time consuming and would be frustrating if it had to be packed and re-inflated on a daily basis. Sleeping bags were all down-filled, with various weights of down. The wind meant

that the tents were sometimes quite cold inside and the lighter bags, with around 700 grams of down, were not always adequate,

especially when the person in the bag was already cold from having been outside: 900 gram down bags are recommended. Snow shovels allowed us to dig windbreaks and cooking areas as the need arose: the modern large-bladed type proved far superior to the smaller old-fashioned models.

Cooking was done on MSR stoves burning A1 aviation fuel, which is similar to paraffin. With the need to melt snow, the stoves typically burned for two to three hours each day and all needed to be stripped down and cleaned at least once. This was a filthy and fiddly process and some cooks managed to tolerate the fumes, smoke and accompanying black mess for a long time, perhaps in the hope that someone else might fix the stove. A kit of tools, spares and cleaning materials was essential and it was noted that lighting the stoves required a good "dose" of Priming Paste. A short piece of karrimat was a useful cooking extra, allowing you to sit outside in comfort without having to disrupt the sleeping area.



Exped Down Air Mattress being expertly tested at Base Camp

Another essential was a rectangle of thin plywood to place under the stove, limiting the effect of it tipping as the snow beneath it melted.

Skiing:

Although we had some plans to shift our base camp, which would have involved hauling heavy sleds, in the event, our skis were only used as glorified snow shoes. They performed this role very well, enabling safe and efficient glacier travel. All four members of the expedition used alpine ski mountaineering skis, skins and bindings, with mountaineering boots – mainly plastic ones. This set up was perfectly satisfactory but the occasional down hill swoosh back towards the tents was quite entertaining without the support of ski boots. Snow shoes could replace skis for less weight and lower freight costs, but reduced safety in crevasse crossings. Plastic pulks were taken with us, but this time, were used only for seats and tables and occasionally to wash socks in.

Mountaineering:

From photographs taken by previous expeditions, we anticipated climbing mostly on rock and descending by snow slopes. In fact, we encountered a wide variety of terrain: snow slopes and easy scrambling, sustained VS rock, grade 5 mixed and ice pitches and odd, ungradeable sections of loosely assembled rubble. Descents were sometimes by snow slopes and couloirs or unpleasantly hard ice slopes, but also once by 14 steep abseils. Our equipment coped well with all that we did. Climbing hardware was what you might carry for a technical alpine peak anywhere; double 8.5 mm 50m ropes, a wide range of protection, big boots, rock boots for the trickier rock pitches and relatively lightweight ice gear. We found cams to be very useful, especially some of the larger sizes (Up to Friend size 3.5), and we only placed one rock peg (and that only to safeguard a retreat). Ice screws were used on the west-facing flank of the NW Ridge and in the iced chimney high on the S Ridge as well as to protect some crevasse crossings. Plenty of tape and cord was carried and used for abseil anchors. Two ice axes per climber were used on all climbs as the descents often involved hard ice slopes and open rimayes.

Clothing:

Each climber used his own "tried and tested" system, from a Buffalo jacket over a Pertex one-piece suit and base-layer, to fleece salopettes and Goretex jackets. Although we encountered snow showers on only one hill day, the Staunings can experience major snow-storms, and we were prepared for these any time we were on the hill. Air temperatures were usually close to 0°C and so Scottish winter climbing would be a fair guide to clothing requirements – but without rain! However it could be very hot on a rock face in the sun, so versatility was important.

Reports of other recent SMC Greenland expeditions include detailed, item-by-item lists of equipment similar to that used on this trip.

6 – Specialist Equipment – Colwyn Jones

A small number of lightweight pieces of equipment were carried to help with navigation, meteorology and communications.

Garmin Etrex 12 channel GPS: This is a small and simple to operate handheld Global Positioning Satellite system. It uses pen cell (AA) batteries and is ideal for navigation in Greenland under expedition conditions. With intermittent use one set of batteries was sufficient for the duration of the expedition. Using the Etrex to identify the start and finish of routes, gear dumps, summits and crevasses, all helped with safety and effective glacier travel.

Global Positioning Satellite System Results

All of the following latitudes and longitudes were taken with a handheld Garmin Etrex 12 channel GPS set to the WGS 84 survey. The two readings for Dansketinde summit were taken 14 days apart and showed variation of 13.3 metres according to the GPS. The South Ridge of Dansketinde was 1.2km long (horizontal direction) using the same method of calculation.

	Height	Latitude	Longitude	Date
Mesters Vig	7m	N 72 14 04.3	W 023 54 56.2	15/07/2003
Col Major	2110m	N 72 07 02.0	W 024 54 14.0	
Dansketinde Summit (2)	2809m	N 72 07 33.5	W 024 57 10.2	16/07/2003
Foot of South Ridge	2036m	N 72 06 54.8	W 024 56 58.7	19/07/2003
Jaalspids	2316m	N 72 07 19.8	W 024 58 23.6	25/07/2003
Dansketinde West Summit	2840m	N 72 07 37.1	W 024 57 26.9	30/07/2003
Dansketinde Summit (1)	2843m	N 72 07 33.9	W 024 57 10.9	30/07/2003

A series of GPS readings were taken from the door of one tent on 19 occasions to check the reliability of the GPS system. The results are shown below.

	Height	Latitude	Longitude	Date
Basecamp	2010	N72 06 19.8	W024 55 31.8	15/07/2003
Basecamp	2053	N72 06 20.3	W024 55 34.2	16/07/2003
Basecamp	2033	N72 06 19.8	W024 55 33.1	17/07/2003
Basecamp	2034	N72 06 20	W024 55 33.9	18/07/2003
Basecamp	2039	N72 06 20.3	W024 55 33.8	19/07/2003
Basecamp	2034	N72 06 20.2	W024 55 33.4	20/07/2003
Basecamp	1999	N72 06 20.4	W024 55 33.2	21/07/2003
Basecamp	2056	N72 06 20.1	W024 55 34.5	22/07/2003
Basecamp	2039	N72 06 20.2	W024 55 33.8	23/07/2003
Basecamp	1989	N72 06 20.2	W024 55 32.9	24/07/2003
Basecamp	2039	N72 06 20.1	W024 55 33.2	25/07/2003
Basecamp	2044	N72 06 20.2	W024 55 33.1	26/07/2003
Basecamp	2044	N72 06 20.3	W024 55 32.8	27/07/2003
Basecamp	2042	N72 06 20.2	W024 55 33.4	28/07/2003
Basecamp	2056	N72 06 20.1	W024 55 33.2	29/07/2003
No reading				30/07/2003
Basecamp	2048	N72 06 20.2	W024 55 33.7	31/07/2003
Basecamp	2016	N72 06 20.5	W024 55 33.9	01/08/2003
Basecamp	2040	N72 06 20.2	W024 55 33.4	02/08/2003
Basecamp	2035	N72 06 20.3	W024 55 33.0	03/08/2003

The height varied from 1989m to 2056m. The Latitude varied from N72 06 19.8 to N72 06 20.5. Using the most extreme latitude readings this was a variation of 30 metres. The

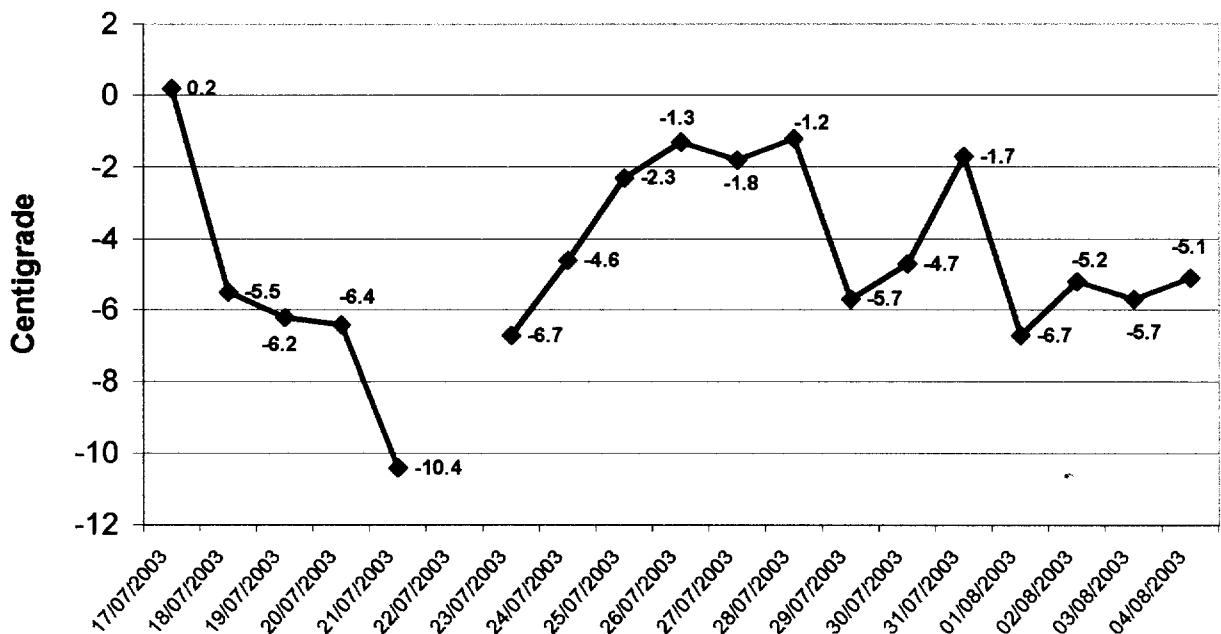
Longitude varied from W024 55 31.8 to W024 55 34.5 and using the most extreme longitude readings gave a variation of 16.6 metres.

Suunto Vector : The Suunto Vector was used throughout for barometric measurement of altitude and to monitor changes in barometric pressure (see weather section). It is the size of a chunky wristwatch and proved to be ideal for expedition use.

Digital Thermometer: A small digital thermometer bought from an electronics shop was taken to record the internal tent temperature and the external temperature. They are typically used for temperature measurement in greenhouses with the internal thermocouple being in the body of the instrument and the external thermocouple being on a wire about two metres long which could be extended outside the tent.

The following set of readings is the minimum external overnight temperature. A reading for the 22nd July could not be taken as all expedition members were climbing overnight. The average overnight temperature was -4.5° centigrade with a minimum of -10.4 and a maximum of 0.2° centigrade.

Minimum Overnight Temperature at Basecamp (2100m)



Communication: Emergency communication could be initiated with an emergency personal indicator rescue beacon (EPIRB) or personal locator beacon (PLB) which has to be carried by any expedition to the North East Greenland National Park. They can be hired or borrowed and are part of the standard equipment on yachts and other small boats. However, they must be rated to operate for at least 48 hours at low temperatures. A Greenland radio licence is required to operate a beacon. The PLB was inspected by the Danish Army personnel at Mestersvig.

VHF Radio: One additional piece of radio equipment lent to us at Mesters Vig was a military field VHF radio. This was the size of a 20-litre rucksack and being solid state was quite heavy. Communication was therefore possible with Mesters Vig which was essential for the planned pick-up by helicopter. The radio frequencies were 3350mhz and 4050mhz and the agreed daily contact times were 0815 and 1815 hours. Although reception varied considerably over the time we were in the field, only once were conditions such that Mesters Vig could not receive our signal. We were always able to receive the signals from Mesters Vig and other powerful transmitters on the coast.

7 – Medical Equipment – Colwyn Jones

First aid kit

The aim of taking a first aid kit was two-fold;

1. To be able to deal with minor trauma thus obviating the need for patient evacuation, and
2. second, to be able to provide suitable emergency and short-term medical care until a rescue/salvage team could aid in evacuating severely injured or ill climbers.



Dr Jones treating an expedition member for a nasty dose of Sniffilis
(a rarely reported Arctic infection contracted by rubbing noses with Eskimos)

The remote area with the resultant likelihood that in an emergency help might take up to 72 hours to arrive, meant that sufficient drugs/equipment were needed for short-term care of up to 3 days. The first aid kit was comprehensive, with the contents dictated by scenario planning of the most likely medical incidents.

In addition to other analgesics, the kit included the opiate analgesic morphine which is a class 1 controlled drug and a licence to export it under section 3(2)(b) of the misuse of drugs act 1971 must be obtained from the Home Office:

Licensing Section
Action against drugs unit
Home Office
50 Queen Annes Gate
London SW1H 9AT

The following information, with a covering letter from the prescribing doctor, must be sent to obtain a licence;

- 1 Country of Destination (and transit countries)
- 2 Dates of departure and return to the UK.
- 3 Drug details (name of drug, form, strength and total quantity)
- 4 Outline justification for the need to carry the drug.

The licence does not appear to have any legal standing outside the UK and import clearance / permission must be obtained from transit countries. Usually pre-warning customs officials will be enough to provide clearance and all class 1 controlled drugs must be declared when crossing frontiers.

We took morphine in the form of Cyclimorph (15mg of morphine and 50mg of cyclizine, an anti-emetic) for intramuscular injection. We calculated that at the minimum repeat interval of 4 hours, it was enough to keep one adult pain-free for 3 days.

None of the expedition members reported an allergy to penicillin and we carried the broad spectrum antibiotics co-amoxiclav (augmentin) for oral use & flucloxacillin for IM injection.

The following drugs were carried in the first aid kit.

Drug/item	Dose / form	Number
Cyclimorph	15mg/ml ampoules	12 ampoules
Diclofenac sodium	50mg	12 tablets
Paracetamol	500mg tablets	24 tablets
Flucloxacillin	500mg/vial for I.M. use	6 vials
2ml syringes & green needles	2 ml	20 sets
Water for injection	2ml	6 ampoules
Co-amoxiclav	500 mg tablets,	24 tablets
Chloramphenicol	eye ointment/drops	20 single use
Oxybuprocaine (local anesthetic)	eye ointment/drops	10 single use
Povidone-iodine	dry powder spray	one aerosol can

Various proprietary antiseptic solutions and creams with suitable dressings were also carried. An oral airway and a urinary catheter were included in case of an unconscious patient. Sun block, Chloramphenicol and local anaesthetic gel for snow blindness were included.

Vicryl sutures and local anaesthetic injections were carried to allow surgical closure of minor cuts and lacerations which did not require casualty evacuation. Individual members also carried small first aid kits for personal use.

No injuries or illness occurred and the first aid kit was not used on the expedition – for which the three non-medical members of the team were extremely grateful.

8 - **Food** – Hamish Irvine

“On a Polar Expedition begin with a clear idea of which Pole you are aiming at, and try to start facing the right way. Choose your companions carefully – you may have to eat them!”

WC Sellar

Two-Man Daypacks

Almost all food was freighted into Greenland as pre-packed two-man, one-day parcels. The main exceptions were oatcakes, shortbread and slices of cake, all kindly provided by Walkers of Aberlour, and the whisky, bought in plastic bottles at the duty free shop in Heathrow. The system of two-man daypacks works extremely well and eliminates the possibility of running out of food. Each such pack contained breakfast, lunch/snacks and evening meal for two, including drinks.

Breakfast

This was typically a large mountain of muesli or similar with dried milk powder already added prior to shipment. Oatcakes and cake allowed for extra big breakfasts when hunger or gluttony struck. Porridge was cooked sometimes, but had a strong tendency to burn due to the thin pans and MSR stoves and so was perhaps not worth the hassle, especially when all cleaning first requires snow to be melted. Breakfast drinks were often fruit/herbal tea, ordinary tea, coffee or sachets of instant hot chocolate. Insulated mugs were very useful.

Lunch/Snacks

We all indulged our own preferences here, and inflicted them on our climbing partners. Often beginning with “oatcakes and ..” – it varied: paté, cheese spread, smoked cheese, salami, honey, even Gentleman’s Relish (however we soon found that none of us were Gentlemen). Primula cheese spread (in tubes) was perhaps the most popular, being easy to carry and use and moist when we were often dehydrated. Slices of cake, shortbread fingers, dried fruit, nuts, chocolate bars and muesli bars were all well appreciated. Drinks on the hill were either of water or energy drink – Power Bar Hydro Plus (kindly supplied by Big Stone) was popular but more drinkable when made up as a weaker solution than the packet suggests. It had a brilliant rehydrating effect.

Main Meals

These had to provide the bulk of each day’s calories but choice was limited by a number of obvious constraints: weight, ease of preparation, cooking time, packaging and shelf life as well as any strong principles or dislikes of your partner. We were committed to taking no tinned or bottled food into the area and all the freighted food was sent out long in advance of the trip. In addition, polar bear liver was to be avoided on account of the toxic levels of Vitamin A it contains. Most meals included dried soups and some form of dry carbohydrate – instant noodles meet all the constraints but get very boring; rice is difficult to cook

well; dried potato lacks both flavour and texture. The only solution is to have variety. Some foil-packed meals in sauce were included as treats and only required heating by immersing the pack in boiling water – feasts such as Chicken Madras were very tasty but quite heavy compared with dried meals. Further calories would follow in the form of cake, custard, short bread or dried fruit and any of the day's left-over snacks. This was also the time to re-hydrate and drink choice varied from Oxo, tea, fruit or herbal tea, "instant" hot chocolate to real filter coffee or "instant" cappuccino. Chocolate, salted nuts, and other snacks were much appreciated and a dram or two was sometimes permitted to toast a good outing, or to drown our sorrows – if we had, yet again, lost to Colwyn at Scrabble.

Despite sometimes becoming repetitive, meals were looked forward to eagerly and always enjoyed. As the climbers stayed healthy and no-one lost weight significantly over the period of the expedition, the catering can be seen as a success. Though it has to be said that a dried food diet did do peculiar things to everyone's digestion at times and resulted in some interesting changes in air quality in the tents accompanied by associated noises which never failed to cheer up the atmosphere, if not improve it.

A more detailed analysis of such a diet can be read in the reports of the SMC Greenland Expeditions of 1996, 1998 or 2001.



Large quantities of excellent Oatcakes, Shortbread, and Fruitcake were kindly provided by Walkers of Aberlour, and much appreciated by the team. Their Oatcakes, in particular, are highly recommended as they make a first rate substitute for bread.

9 - **Weather** (and a few other notes!) – Colwyn Jones

The following narrative records the weather we experienced over the field time of the expedition. Where available, meteorological readings for Scoresby Sund, a settlement at sea level approximately 200km south of base camp are provided for comparison viz:

www.wunderground.com/global/stations/04339.html
Updated: 06:00 AM East Greenland Standard Time on Friday July 11, 2001
Observed at Illoqqortoormiut, (Scoresby Sund) Greenland
Temperature 40° F / 4° C
Humidity 77%
Dewpoint 34° F / 1° C
Wind Calm
Pressure 30.03 in / 1017 hPa
Conditions Partly Cloudy
Visibility 47 miles / 75 kilometres

13th July Flew from Glasgow at 20.35 hours on a lovely clear day in Glasgow, bright & a bit windy, Dry and warm on arrival at Heathrow but still windy.

14th July Flew from Heathrow at 13.00 hours. Weather was fine in London with some cloud over Ireland but clear sky over the north coast. Mainly cloud over Atlantic with a broken spectre of the plane. Landed at Keflavik in clear weather.

It was windy at Reykjavik domestic airport, thought sunny with some cloud. 18.45 hours flight by Fokker 50 to Akureyri. We took off and climbed straight into cloud. It was overcast at Akureyki and a light rain started to fall after supper.

15th July Left at 12.12 hours from Akureyri in a Fairchild Metroliner 23. There were 8 passengers. The 4 expedition members, 3 meteorologists, plus 1 other. It was a sunny day and Woodcock were producing their distinctive vibratory sounds with their wings in the vegetation next to the runway at Akureyri.

The Fairchild Metroliner 23 has a pressurised cabin with seats for 15 passengers although the details from the in-flight magazine said 19 passengers. Cruising speed was 510km/hour. The pilots forgot to put handbrake off until we were halfway along runway but it was otherwise an uneventful takeoff. It was clear enough to see the island of Grimsay en route.

After just less than an hour flying almost due north we turned more west to 288 degrees. There was low cloud over the Denmark Straits. We sighted the coast of Greenland almost on the hour and there was extensive sea fog, some running up onto the coastal glaciers. We landed after overflying both Scoresbysund and Constable Point in brilliant sunshine.

We were flown by helicopter into base camp at an altitude of 2100m. We sank about 10 cm into soft fresh snow with no layering to the

snowpack. We established the camp in good weather with no wind but some light cloud. Beanfeast + dumplings for tea.

16th July

Bright morning and set off to climb Dansketinde by the East Ridge (Koch Couloir?). The approach was more heavily crevassed than in 1996 with a big crevasse guarding entry to the Dansketinde/Hjornespids corrie. There was some granular snow on hard ice and we quickly ascended the slope then up the couloir to the summit. It was very windy on top. Very windy on our return to camp with about 3/8th cloud cover.

www.wunderground.com/global/stations/04339.html

Updated: 6:00 AM East Greenland Standard Time on July 16, 2003

Observed at Illoqqortoormiut (Scoresby Sund), Greenland

Temperature 42 °F / 6 °C

Humidity 66%

Dew Point 32 °F / -0 °C

Wind Calm

Pressure 29.96 in / 1015 hPa

Conditions Clear

Visibility 47 miles / 75 kilometres

Yesterday's Maximum 43 °F / 6 °C

Yesterday's Minimum 38 °F / 3 °C



Cloud formations over the Greenland Icecap as seen from Col Major

17th July

Very mild overnight with a minimum temperature of **0.2** centigrade. It remained very windy all day with considerable spindrift filling the void between the flysheet + inner tent. From there it melted, dripping onto the groundsheet. It was a day for a long and sustained fester. There was heavy cloud most of the day which came and went.

www.wunderground.com/global/stations/04339.html

Updated: 6:00 AM East Greenland Standard Time on July 17, 2003

Observed at Illoqqortoormiut (Scoresby Sund), Greenland

Temperature 39 °F / 4 °C

Humidity 72%

Dew Point 32 °F / -0 °C

Wind Calm

Pressure 29.90 in / 1012 hPa

Conditions Partly Cloudy

Visibility 47 miles / 75 kilometres

Yesterday's Maximum 49 °F / 9 °C

Yesterday's Minimum 37 °F / 3 °C

Cloud
formation
over Col
Major



18th July

Minimum overnight temperature was -5.5 centigrade. It was windy early in the day but it gradually got better then clouded over completely by late afternoon and evening.

www.wunderground.com/global/stations/04339.html
Updated: 6:00 AM East Greenland Standard Time on July 18, 2003
Observed at Illoqqortoormiut (Scoresby Sund), Greenland
Temperature 45 °F / 7 °C
Humidity 46%
Dew Point 26 °F / -4 °C
Wind SE at 3 mph / 4.8 km/h
Wind Gust –
Pressure 29.88 in / 1012 hPa
Conditions Partly Cloudy
Visibility 47 miles / 75 kilometres
Yesterday's Maximum 58 °F / 14 °C
Yesterday's Minimum 44 °F / 7 °C

19th July

Overnight temperature was -6.2 centigrade. Again cloudy and windy first thing in the morning with complete cloud cover. The day improved and we set out at lunchtime with a bit of wind but no cloud cover to start the South ridge of Dansketinde. The GPS coordinates were 2036m, N72 06 54.8 W024 56 58.7

20th July

Overnight temperature was -6.4 centigrade. No cloud cover but strong winds all morning with spindrift again collecting. The winds eased by lunchtime to become a bright day. Sea level barometric pressure 1014mb at noon. Assuming base camp was at 2100m. A raven flew over just before midday. Heading over camp and north towards Susan's peak.

21st July

Minimum overnight temperature was -10.4 centigrade. There was no cloud and it was sunny and calm.

www.wunderground.com/global/stations/04339.html
Updated: 12:00 PM East Greenland Standard Time on July 21, 2003
Observed at Illoqqortoormiut (Scoresby Sund), Greenland
Temperature 42 °F / 6 °C
Windchill 37 °F / 3 °C
Humidity 67%
Dew Point 33 °F / 0 °C
Wind ESE at 8 mph / 12.9 km/h
Pressure 29.94 in / 1014 hPa
Conditions Partly Cloudy
Visibility 3 miles / 5 kilometres

22nd July No overnight temperature recorded as we were on Dansketinde. We got back to base camp at 08.24. A large jet flew almost directly overhead at 15.50.

www.wunderground.com/global/stations/04339.html
Updated: 12:00 PM East Greenland Standard Time on July 22, 2003
Observed at Illoqqortoormiut (Scoresby Sund), Greenland
Temperature 44 °F / 7 °C
Humidity 73%
Dew Point 36 °F / 2 °C
Wind WSW at 3 mph / 4.8 km/h
Pressure 29.82 in / 1010 hPa
Conditions Overcast
Visibility 47 miles / 75 kilometres

23rd July Overnight temperature was -6.7 centigrade. Another sunny morning with light cloud.

www.wunderground.com/global/stations/04339.html
Updated: 12:00 PM AM East Greenland Standard Time on July 23, 2003
Observed at Illoqqortoormiut (Scoresby Sund), Greenland
Temperature 44 °F / 7 °C
Humidity 76%
Dew Point 37 °F / 3 °C
Wind SW at 2 mph / 3.2 km/h
Pressure 29.71 in / 1006 hPa
Conditions Partly Cloudy
Visibility 47 miles / 75 kilometres

24th July Minimum overnight temperature was -4.6 centigrade. It was a bright morning but with total cover by light cloud.

25th July Overnight temperature was -2.3 centigrade. Bright morning but total cover by cloud. Started to snow late in day and snowed overnight. The snow from the glacier up to the rocks on Jaalspids had a worrying granular surface layer.

26th July Overnight temperature was -1.3 centigrade. It snowed overnight. Moderate cloud. Complete cover down low to well below 3000m. 2 - 3 centimetres of snow in total.

27th July Overnight temperature was -1.8 centigrade. Complete cloud cover with mist hiding everything down low. There was no wind. It snowed lightly all day. Barometric pressure was 783mb at noon, 783mb at 1800 hours and 784 mb at 2400 hours.

28th July It snowed all night with a mild wind. The minimum overnight temperature was -1.2 centigrade. Again there was complete cloud cover with mist down low. It cleared by evening. Barometric pressure was 784mb at 0600 hours, 785mb at 1200 hours, 785mb at 1800 hours and 784mb at 2400 hours.

29th July

The overnight temperature was -5.7 centigrade. During the day there was light cloud cover, but there was sunshine at 9.00am unlimited visibility. We left to climb the SW ridge of Dansketinde at 20.15 hours.

Barometric pressure was 784 mb at 0000 hours, 784mb at 0600 hours, 784mb at 1200 hours and 783mb at 1800 hours.

www.wunderground.com/global/stations/04339.html
Updated: 12.00 PM East Greenland Standard Time on July 29, 2003
Observed at Illoqqortoormiut (Scoresby Sund), Greenland
Temperature 42 °F / 6 °C
Humidity 87%
Dew Point 39 °F / 4 °C
Wind South at 1 mph / 1.6 km/h
Pressure 29.79 in / 1009 hPa
Conditions Overcast
Visibility 47 miles / 75 kilometres

30th July

Minimum overnight temperature at the camp was -4.7 centigrade. We attained the W summit at 18.00 hours and sat for about 1 hour. On the main summit at 20.30 hours. Aneroid height 2935m. Back to camp at 2.00am. Much rotten ice and snow on descent.

31st July

Lowest overnight temperature was -1.7 centigrade. There was complete cloud cover with mist over the summits. Barometric pressure was 783mb at 1200 hours, 785mb at 1800 hours which is a sea level equivalent of 1012mb. Windy in afternoon with spindrift and bitterly cold in evening. Temperature was - 5 centigrade but there was a strong wind-chill. At 19.05 we saw a jet aircraft flying directly north but no contrails.

1st
August

Minimum overnight temperature was -6.7 centigrade. We recorded a temperature of 31.6 centigrade inside the tent in the morning owing to direct sunlight. Clear and sunny with a very light breeze. Perfect Arctic summer!

Barometric pressure was 785mb at 0000 hours, 785mb at 0600 hours (sea level equivalent of 1012mb), 785mb at 1200 hours, (s l e 1012mb), 783mb at 1800 hours, (s l e 1011mb) and 784mb at 0000 hours.

www.wunderground.com/global/stations/04339.html
Updated: 6:00 AM East Greenland Standard Time on August 01, 2003
Observed at Illoqqortoormiut, (Scoresby Sund) Greenland
Temperature 48 °F / 9 °C
Windchill 44 °F / 7 °C
Humidity 39%
Dew Point 25 °F / -4 °C
Wind North at 9 mph / 14.5 km/h
Pressure 29.79 in / 1009 hPa
Conditions Partly Cloudy
Visibility 47 miles / 75 kilometres
Yesterday's Maximum 54 °F / 12 °C
Yesterday's Minimum 43 °F / 6 °C

2nd
August The minimum overnight temperature was -5.2 centigrade. Again clear and sunny, light high cloud with 5/8 cover, no breeze. A perfect Arctic summers day.

Barometric pressure was 784mb at 0000 hours, 783mb at 0600 hours (s l e 1009mb)
783mb at 1200 hours (s l e 1010mb), 783mb at 1800 hours (s l e 1010mb) and 784mb at 0000 hours.

3rd
August The minimum overnight temperature was -5.7 centigrade. Clear and sunny, light high cloud with 1/8 cover. No breeze. Perfect Arctic summer. Barometric pressure 784mb at 0000 hours, 785mb at 0600 hours, 785mb at 1200 hours, 785mb at 1800 hours and 786mb at 0000 hours.

4th
August Minimum overnight temperature was -5.1 centigrade. Clear and sunny, light high cloud with 7/8 cover, no breeze. Barometric readings 786mb at 0000 hours, 788mb at 0600 hours (sea level equivalent 1009mb). Flown back to Mesters Vig later that morning.

www.wunderground.com/global/stations/04339.html
Updated: 12:00 PM East Greenland Standard Time on August 05, 2003
Observed at Illoqqortoormiut, (Scoresby Sund) Greenland
Temperature 45 °F / 7 °C
Humidity 84%
Dew Point 41 °F / 5 °C
Wind Calm
Pressure 30.02 in / 1017 hPa
Conditions Partly Cloudy
Visibility 47 miles / 75 kilometres

6th
August Arrived Heathrow in bright sunshine.

With thanks to Tanya Woodley and Simon Steer of Highland NHS Board.

10 – Snow Conditions – Jonathan Preston

On arrival at base camp at Col Major on July 15th, we initially observed similar conditions to 1996, our last visit. There was a little more snow on Dansketinde than before, but a lot of this disappeared during the course of the trip.

However, it soon became apparent that the main glacier leading to the normal route up Dansketinde had changed fairly dramatically over the past seven years. It was a lot more crevassed and there was a substantial cornice running along the headwall, indicating that there had been strong northerly winds at some point. Snow conditions underfoot varied enormously, from being excellent, when after a cold, clear period it was possible to crampon along on the surface, to abysmal, when cloudy conditions led to soft snow/breakable crust and trail breaking up to the knees.

There was no significant snowfall during our stay and the only evidence of any avalanche activity observed was debris from one or two wet snow sloughs on south-facing slopes where newer snow had slid off older snow or underlying ice.

It was very windy during the early part of the trip, mainly westerly and south westerly, blowing off the ice cap, so very cold and, though dry, with no precipitation, there was a lot of spindrift blowing across the glacier.

On July 19th we experienced one day of light snowfall at base camp. This consisted almost entirely of graupel with very little accumulation.

July 26th was the most prolonged period of snowfall (c.12 hours on and off). Again very light with no wind. Maximum build up of 2cms in places.

July 28th: more snow, this time with an easterly and therefore a moister airflow. This led to some heavy riming and again about 2cms of fresh snow on the ground.



Windblown snow on Col Major

11 - **Geology** – Jonathan Preston

The **Staunings Alps** consist of three main rock types:

1. **Pre-Cambrian to Devonian Sediments.**
2. The **Older Granites** (migmatites or granitised sediments).
3. The **Younger Granites** (late intrusions).

The area where we were climbing, around Col Major, and particularly on Dansketinde, consists of a migmatite complex from the second group of rock types outlined above. A migmatite is a rock (in this case a sediment) which is partially molten. 500 million years ago, during the Caledonian mountain building period, older sediments of phyllite, quartzite, mica schist and gneiss were folded and intruded by igneous material. These molten granitic materials assimilated the original sediments resulting in granite of varying colour and grain size. The metamorphosed remnants of the older sediments are sometimes discernible in the structure and composition of the new materials.



Jonathan Preston taking a rock sample from Dansketinde.

The rocks on Dansketinde date from ca 425 million years ago and are migmatites, containing as described above both old rock and newer granitic intrusive material. The area is likely to have been low topography or even covered by the sea after the Caledonides were eroded down (c.260 million years ago). It is still unclear when the mountains that occur today there were formed, but it is likely to be associated with the break up of the North Atlantic in two stages 55 and 25 million years ago. The topography itself is the result of continued process of ice erosion started about 25 million years ago.

Prior to the expedition, we were contacted by Ebbe Hartz, a Danish geologist working at Oslo University, who asked us if we would collect 2kg rock samples at 100m vertical height intervals on Dansketinde, as well as any granite from outlying outcrops.

Orange and red rocks are targets:

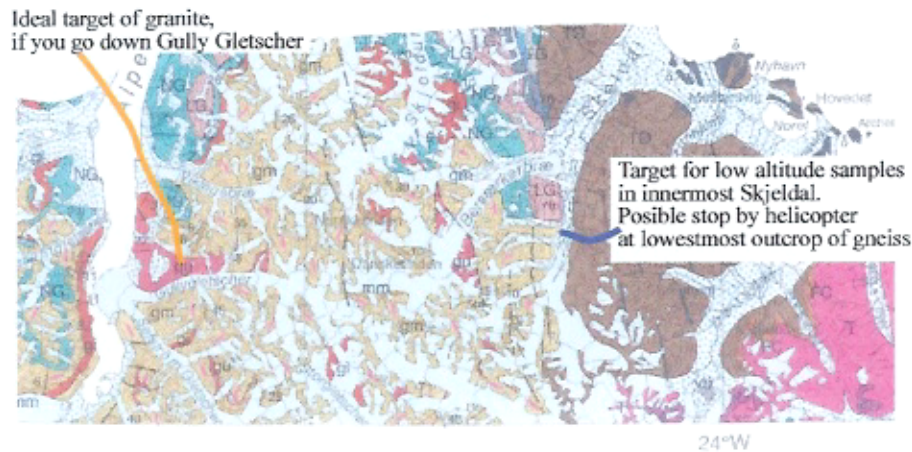
Orange rocks are migmatitic gneiss, that means partially melted sediments.

These rocks should have veins of granitic melt and a layered coarse grained rock (a heated sediment).

A mix of these rocks (where possible) is best, otherwise is the granite first priority.

The red rock are granites, where these are large enough to marked on the map. These are ideal to work with, but do not occur everywhere.

Sample criteria: It is important to have as much altitude difference as possible between samples. This means that low altitude rocks are as important as high altitude. The high altitude rocks are those that I cannot access and thus the priority, but if you travel by low altitude crystalline rocks then please also collect these. This include stopping the helicopter at lowest possible altitude N. of Gully Gletscher (if you go down that way), and at Skeldal when you return by the helicopter.



Dr Hartz's instructions to the expedition.

We eventually bagged up a total of 12 samples, each hacked off from in situ rock. For each sample we recorded two GPS readings, and three altitude readings (two Garmin Etrex GPS and one aneroid barometer Suunto Vector Watch). We also took photographs with instant cameras of the site of removal. Each sample was then bagged up separately together with a label containing a record of its data and given a code number. A separate record of the data was also prepared. These samples, together with the data and photographs recorded, were removed to Mesters Vig and have since been forwarded to Dr.Hartz. In return for this service, Dr Hartz very kindly agreed to fund a considerable portion of the expedition's helicopter costs, for which the members of the team (and their bank managers) would like to record their extreme gratitude.

Scottish Mountaineering Club, Greenland 2003,**Rock samples for Ebbe Hartz, University of Oslo.**

Aneroid height, GPS position and altitude and second GPS reading where available.

Aneroid height from a Suunto Vector.

GPS from a Garmin Etrex format hddd^omm'ss.s"

Rock sample	Aneroid height	GPS1 Latitude	GPS2 Longitude	GPS2 height	GPS 2
1 Dansketinde summit	2920m	N 72 07 33.9	W 024 57 10.9	2843m	Not available
2 East ridge	2835m.	N 72 07 36.8	W 024 56 59.8	2782m	N 72 07 36.7 W 024 57 01.3 2769m
3 East ridge	2750m	N 72 07 37.8	W 024 56 53.9	2689m	N 72 07 38.0 W 024 56 53.8 2682m
4 East ridge	2675m.	N 72 07 39.2	W 024 56 47.3	2628m	N 72 07 39.4 W 024 56 48.4 2619m
5 East ridge	2605m	N 72 07 41.7	W 024 56 33.5	2537m	N 72 07 41.7 W 024 56 32.8 2550m
6 East ridge	2645m	N 72 07 46.5	W 024 56 16.1	2498m	N 72 07 47 W 024 56 15.9 2556m
7 East Ridge	2550m	N 72 07 44.4	W 024 56 14.2	2433m	N 72 07 44 W 024 56 13.3 2479m
8 East ridge	2500m	N 72 07 42.3	W 024 56 15.9	2425m	N 72 07 42.3 W 024 56 16.7. 2431m
9 SE flank	2020m	N 72 06 55.3	W 024 57 01.3	1937m	N 72 06 55 W 024 56 59.3 2035m
10 SE flank	2165m	N 72 07 00.6	W 024 57 00.3	2185m	N 72 07 00.8 W 024 57 02.1 2177m
11 SE flank	2205m	N 72 07 05.5	W 024 57 03.0	2194m	N 72 07 05.6 W 024 57 02. 2218m
12 Skeldal on return helicopter flight	450m	N 72 07 25	W 024 25 03.9	459m	Not available

12 - **Flora and Fauna** (notable by its absence!) – Hamish Irvine

Fauna: Away from the coast, 72°North and at altitudes of 2000 metres and above, the rock, ice and glaciers of the Staunings Alps is an extremely barren environment. The only animal life seen from base camp or above was a solitary Northern Raven, spotted at base camp once by one of the party.

Down towards the coast, seen either at Mesters Vig or from the air, we had fleeting views of musk ox and lemming and saw also small numbers of turnstone and geese. The coastal fringe supports several interesting species of mammals and birds, both resident and migratory, but very few make their way inland. We were equipped with a rifle in case of polar bear attack, but bears are not tempted to leave the food-rich coast to climb peaks and passes. But then, if one did, it would be pretty hungry by the time it met a climber....



Northern Raven over basecamp on Col Major

Each year there are expeditions to the coast and islands studying the animal and bird life. We met a party at Mesters Vig returning from two weeks counting lemming on Trail Island, as part of a project to plot the annual growth and decline against that of arctic foxes in the same area. How many had they seen? – not one! They did however have a polar bear walk through their camp one night.

Flora: Again, by flying to and from Col Major, we encountered only the few plants of the high mountains and, briefly, those of the coast itself. Up high, plant life was restricted to a few lichens, mosses, and one small flowering plant – a small poppy – in a crack on Jaalspids. On return from the glacier, we found Mesters Vig to be a relatively lush, grassy area with large areas of bog cotton and ground-hugging saxifrage.

Those curious to know more of the flora and fauna of this area may find information on recent zoological, ornithological and botanical expeditions from the Danish Polar Centre (www.dpc.dk). Reports of other recent SMC Greenland expeditions also include more detailed accounts of the flora and fauna of the Staunings.

13 – **Accounts** – Stephen Reid

Although highly successful in mountaineering terms, this expedition was only achieved at rather a high financial expense. Some of these costs were not anticipated, and the end result was rather an embarrassment to the expedition leader when he had to go back to the members and beg extra funds to pay the bill for the helicopter charter. Although the cost of the flights from Mesters Vig to Col Major were fairly well understood, and each journey reasonably accurately forecast at ca £900, the cost of getting the helicopter to Mesters Vig from its base at Constable Point (return flight time 2 hours) had been somewhat underestimated. This was because it was assumed that this helicopter would be required for use by several other expeditions (as had happened a few years earlier), and that therefore transfer costs would be split several ways. In the event, only the second transfer was split, and then only in half.

A second factor was that though the flight to Col Major costs were reduced as there were less expedition members and so fewer flights, the transfer costs were exactly the same, only this time divided amongst 4, rather than 8 as in the 2001 Expedition.

Finally, although all the information we had from the DPC, indicated that the helicopter would carry a load of up to 700kg up to Col Major, this proved not to be the case, and perhaps an estimate of 500kg would be nearer the mark. A second helicopter flight was thus required to get the team into Col Major, and this had not been budgeted for.

However, on the bright side, if Ebbe Hartz had not kindly agreed to pay for one flight in and one flight out, the costs to the team would have been even higher still. In addition, substantial and generous grants from the British Mountaineering Council, The Mountaineering Council of Scotland, the Mount Everest Foundation and the Gino Watkins Memorial Fund meant that the cost paid by each member was in the region of £2650.

In fact, given the time we had, it is hard to see what else we could have done, as if we had had to ski and walk out to Mesters Vig, then there is no doubt that we would not have climbed the South Ridge of Dansketinde which was the major aim and achievement of the expedition. I suspect that future expeditions wanting to visit the Staunings but keep to a more reasonable budget, will have to consider an eight-man team, use of a Twin Otter, and flying via Constable Point and then skiing/walking out to Mesters Vig, as we did in 1996. To get much worthwhile done using this method, it would be better to allow for a four, or even five-week expedition, rather than three. It might also be cheaper to fly commercially to Constable Point and then use the Twin Otter from there, provided of course that it is already at Constable Point because another expedition also requires its use there, and thus the costs can be shared. If it is necessary to use helicopters then the costs could be kept down by mounting several expeditions at the same time as the transfer costs could be split more ways.

Approximate costs in for the helicopter flights were:

Chart 1: Helicopter Charter							
1DKK=	0.094447	GBP		Flights	Transfer	Freight	
			DKK	DKK	DKK	MVG-AEY	
15-Jul	CNP	MVG	17888		17888	91kg	
15-Jul	MVG	CMJ	5970	5970		35DKK	
15-Jul	CMJ	MVG	4560	4560			
15-Jul	MVG	CMJ	4814	4814			
15-Jul	CMJ	MVG	4560	4560			
15-Jul	MVG	CNP	22350		22350		
04-Aug	CNP	MGV	15142		15142		
04-Aug	MVG	CMJ	4306	4306			
04-Aug	CMJ	rock smpl	3546	3546			
04-Aug	rock smpl	MVG	3040	3040			
		Totals	86176	30796	55380	3185	
		1/3	SMC	10265	55380		Total
				£970	£5,230	£301	£6,501
		2/3	EH	20531			
				£1,939			

NB The Sterling costs in this chart are not identical to those in the final accounts due to a change in the exchange rate.

The costs of flying via Iceland on an all-inclusive package deal from the DPC are also dear, and there is no doubt that shopping around and booking each stage separately could reduce this. The drawback with this latter method is that if something goes wrong, and the expedition is marooned in the mountains for several days, as a result of which it misses all its flights, then it would be up to the team to sort out the muddle, not the DPC: the end result could be even more expensive.

Of the other major costs, insurance is compulsory and, as far as we are aware, only on offer from the BMC, and freight costs seem similar whatever company one approaches – Arbuckle Smith appear to be as competitive as any, and efficient too, which is definitely more important than saving a bit of money.

In essence the DPC is not a travel agency, and, considering that, it does in fact do a very good job. However, whilst there remains a virtual monopoly on air flights along the East Greenland coast, such as that enjoyed by Air Alpha, then transport costs will remain exorbitant compared with those in similar parts of the world such as Alaska where there is considerably more competition. It is also very hard to plan any expedition when one cannot be sure of the costs that you are likely to incur. This means that superb areas such as the Staunings will remain totally under-utilised for climbing, whilst the European Alps become more and more crowded. This is a great shame, not only for climbers, but also for Greenland, a country that is struggling for financial independence and could

well do with the extra income that visiting climbers could bring if proper systems were implemented to manage them and make the planning of expeditions a little easier for them.

The accounts for the expedition are:

Chart 2: Expedition Accounts			
Month	Date	Balance (£)	Source
April	19	9.06	Opening Balance
	22	600.00	GWMF Grant
May	14	700.00	BMC Grant
	19	0.04	Interest
		225.00	MEF Grant
	29	2200.00	Irvine Contribution 1 & 2
June	2	-540.00	BMC Insurance
		2200.00	Reid Contribution 1 & 2
		-35.50	Ammunition
	11	1000.00	Preston Contribution 1
		-15.00	Radio Licence Trans Charge
		-47.76	Radio Licence
	19	0.27	Interest
	24	2200.00	Jones Contribution 1 & 2
July	1	1200.00	Preston Contribution 2
	10	-766.65	Arbuckle Freight
		-5245.72	Air Iceland
		-27.50	Air Iceland Trans Charge
	17	-27.60	Preston Geology Cameras
	19	0.45	Interest
Sept	30	-139.15	Reid Money Owed
Oct	8	-109.82	Jones Money Owed
	13	-342.98	Irvine Money Owed
	19	0.23	Interest
Dec		-6036.75	Helicopter Charter
		-25.00	Bank transfer to Denmark
		606.00	Jones Contribution 3
		606.00	Irvine Contribution 3
		606.00	Reid Contribution 3
		606.00	Preston Contribution 3
		8.46	Preston Owings
		600.00	MCoFS Grant
		8.08	Closing Balance

Cost of Expd	Grants	Cost less Grants	Cost of Expd/man
£12,742	£2,125	£10,617	£2,654

(Rounded to the nearest £)

Chart 3: Personal Accounts

2003

£1 =

122 IK

	SR	IK
Exped Owes	£	
Gun cleaning	22.00	
Cash	100.00	
Scrabble	9.00	
Cash	100.00	
TOTAL	231.00	

231.00

	CJ	IK
Padlock	£ 9.00	
Meal Edda	109.84	13400.00

118.84

	JP	IK
Photos	£ 9.98	

9.98

	HI	IK
Cards	£ 2.00	
Meal RKV	131.62	
Freight RKV	108.22	13203.20
Freight KES	117.93	

359.77

Owes Exped

cash	4.10	500
cash	4.10	500
cash	4.10	500
tee	10.25	1250
salmon	28.95	3532

51.49
179.51

tees x2	13.66	1667.00
salmon	35.71	4357

49.38
69.46

cash	4.10	500
cash	4.10	500
tee	10.25	1250

18.44
-8.46

cash	4.10	500
tee	6.84	834
duty free	4.22	515

15.16
344.62

owes CJ

room	37
whisky	5
minus owes	42.00
plus owed	1.64
TOTAL	139.15 Paid

owes SR

minus owes	1.64
plus owed	42.00
TOTAL	109.82 Paid

owes SR

minus owes	1.64
plus owed	0.00
TOTAL	342.98 Paid

14 - Future Possibilities - Stephen Reid

Although as a result of the, 1996 and 2003 Expeditions, much has been climbed in the Col Major area and beyond, there are still plenty of opportunities for first ascents and new routes in the Staunings. A few of the more important ones are given below.

Hjornespids:



This subsidiary peak on the SE Ridge of the Hjornespids was first climbed by Slesser and McNaught-Davies; it is believed via the right-hand skyline.

An outlier on its South-East Ridge (above), immediately above the Bersaerkerbrae Descent Couloir has some fine looking rock pillars, whilst the West Face (below - above the right-slanting snow field) is unclimbed. It consists of a snow/ice face for half its length with more technical mixed and rock climbing above.



The Hjornespids: The skyline ridge on the right is the South Ridge (Bickerdike and Jones, 1996). The Ordinary Route traverses in along the pinnacled ridge on the left. The West Face lies between the two.

Dansketinde:

The South-East Face (right flank of the South Ridge) was climbed by an SMC Expedition in 1994 and whilst many variations could be made hereabouts and to the north of the Original Route, none of these is likely to prove rewarding. However the huge face between the South and South-West Ridges has some plum unclimbed lines. In particular the **South Pillar** which rises directly to the summit looks a great free-climbing possibility. The narrow **South Couloir** bounds it's left-hand flank and again looks a fantastic line which would either

require a Spring expedition, or, if attempted in July, a fast-moving team climbing at "night".



Photo: The South Pillar of Dansketinde and the narrow couloir on its left – both are unclimbed. The South Ridge takes the skyline on the right.

The **West Face**, between the South-West and North-West Ridges offers a good looking easy line up a huge central couloir. We got good views of this whilst on the South-West Ridge. It would mainly be on snow but there looked to be an ice pitch at about half height. Further up, the Final Tower could probably be avoided on the left. The start of this climb could be gain from Col Major by crossing Col Wyn and making a descending traverse down to the foot of the route. Alternatively the col at the foot of the South-West Ridge could be crossed and an abseil descent made.

The **Døðøenryygen** (Dead Eagle Range) form the west flank of Col Major area and a continuation of the South-West Ridge. Although all the major summits have been climbed by the obvious snow gullies, there is scope for some excellent rock and mixed new routes on the Col Major side.



Photo: The Døðøenryygen from Col Major.

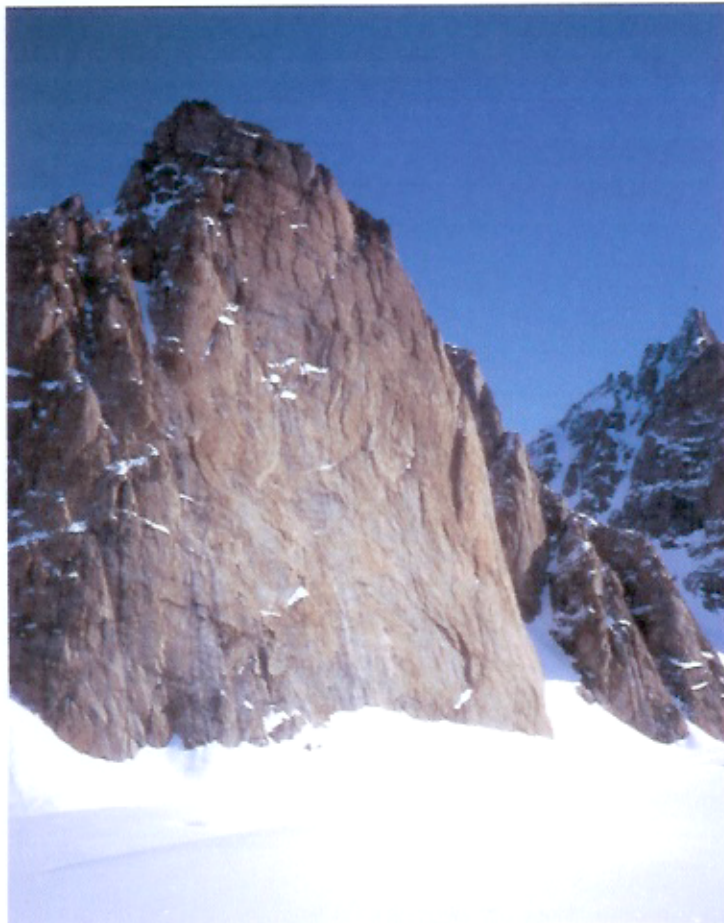


Photo: The South Face of Sussex.

Sussex: This peak on the Sefstroms Glacier has a tremendous 800m high rock **South Face**. The only attempt on this so far was by an SMC team in 2001 who only progressed a few pitches up the face before poor protection and highly technical climbing defeated them. However it is possible a different line may prove more amenable.

Atillaborgen: The two peaks marked to the south of this mountain on Bennet's map are unclimbed and probably the highest unclimbed summits in

the Staunings. An attempt was made from the Sefstroms side in May 1998, but failed due to the climbers not being sufficiently acclimatised.

Tupilaq: This intriguing peak which has a vast hole through its summit, was first climbed from the south side by an SMC team in 1998. The unclimbed **North Face**, accessed from the Sefstroms Glacier, is an obvious target.



Photo: The North Face of Tupilaq (the left hand of the two summits – the hole through its top can be seen).



The North Face of the Bersaekertinde.

Bersaekertinde: The **North Face** of this peak has been attempted in the past but as far as we can ascertain is still unclimbed – it is a fairly daunting prospect. Descent could be tricky.

15 - Acknowledgements

We would like to thank Hague Andersson and all the staff at the Danish Polar Centre who facilitated the Expedition and organized many of the travel arrangements which were finalized by Kristbjörg Björnsdóttir of Air Iceland. Also the military personnel at Mesters Vig Airstrip who too were very helpful and kind. Freighting to Constable Point was efficiently arranged by Audrey Murdoch of Arbuckle, Smith & Co Ltd of Glasgow.

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John Bickerdike
on the summit of
Annsketinde,
during the first
ascent in 1996

**In Memory of John Bickerdike
1949 - 2002**