

The Arctic Jubilee Expedition 2012



Barbeau Peak Expedition Report

Ellesmere Island, Nunavut, Canada

20.05.12 – 13.06.12

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We are extremely grateful to HRH The Prince of Wales for acting as patron to the expedition as well as all the companies, institutions, trusts and individuals who made generous contributions of support. Without your kindness the Arctic Jubilee Expedition simply would not have been possible.

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1. EXECUTIVE SUMMARY

The historic Arctic Jubilee Expedition was designed to celebrate the Diamond Jubilee of HM Queen Elizabeth II whilst promoting and raising awareness of the Arctic environment, encouraging cross cultural communication, providing career development opportunities to young people and fostering global citizenship.

The expedition aimed to visit the highest point on the Queen Elizabeth Islands, renamed by Canada on the coronation of HM the Queen in 1952. Barbeau Peak has only been summited 16 times throughout history and is the highest point within the British Empire Range as well as the Arctic Cordillera. To capture our audience's imagination, our young team of five from Plymouth and two adventurous Canadians planned the most remote Diamond Jubilee tea party in the Commonwealth. Central to the ascent of Barbeau peak was an education and outreach programme linking Inuit and UK schools via our interactive IT learning platform. During the expedition, our interactive discussion boards enabled students from both cultures to interact and discuss questions relating to cultural identity, the Arctic environment and issues of climate change and sustainability.

Noteworthy recognition for the expedition included; support from the Royal Household by means of patronage by HRH the Prince of Wales and the request of an official Loyal Greeting to HM Queen Elizabeth II from the summit via email; to which she responded. In addition, the expedition was also awarded to carry the prestigious flag of the Explorer's club which has been carried by club members on hundreds of expeditions since 1918 and represents an impressive history of bravery and achievement.

Despite significant delays, the expedition achieved its objective of climbing Barbeau Peak (2616m), completing the 5-9th ascent via the north ridge¹. In addition to this accomplishment, a further 8 summits were reached including a possible first ascent of the north ridge of Mt. Whistler (last climbed in 1982) and 7 un-named peaks. Of these peaks, four are believed to be first ascents with three first recorded ascents. The expedition featured in a range of publications locally, nationally and internationally generating an estimated value of £566,503 in media coverage and raising £4829.75 for our charity Jeremiah's Journey.

The expedition was a resounding success in achieving its objectives and we hope the Arctic Jubilee Expedition is a springboard of inspiration for others, lasting long into the future by delivering a fitting legacy not only to this expedition, but also to that of the Queen's Diamond Jubilee.

[1] Due to the incomplete and inconclusive nature of current records the expedition is unable to be irrefutable as to whether the 5th, 6th, 7th, 8th or 9th ascent of the north ridge of Barbeau Peak was achieved.

2. INTRODUCTION

The great mystery and stark beauty of the Arctic has constantly inspired humanity to explore and expand its knowledge concerning many of its tightly kept secrets. In keeping with the long history of Arctic exploration, interest in the frozen North shows no sign of letting up and only looks set to thrive in the 21st century. Propelled by a number of breakthroughs in understanding this diverse and influential environment, the Polar Regions are no longer recognised as the desolate frontiers that they were once believed to be. The recent explosion of attention from scientists, policy makers, politicians and the media alike, has resulted in the emergence of a number of diverging perspectives on calculating and managing the potential effect of various issues associated with the Arctic. Fuelled by considerable contention, the region appears condemned to hold a significant role in matters of global political and economic concern.

The Arctic Jubilee Expedition 2012 was designed to celebrate the Diamond Jubilee of HM Queen Elizabeth II whilst promoting and raising awareness of the Arctic environment, encouraging cross cultural communication, providing career development opportunities to young people and fostering global citizenship. The expedition departed on the 20th May 2012 and aimed to visit the highest point on the Queen Elizabeth Islands, renamed by Canada on the coronation of HM the Queen in 1952. Barbeau Peak has only been summited 16 times throughout history and is the highest point within the British Empire Range as well as the Arctic Cordillera. More people have summited Mt. Everest than Barbeau Peak, outlining the remoteness and the momentous impact of the project.

To capture the imagination of our audience, our young team of five from Plymouth and two adventurous Canadians planned the most remote Diamond Jubilee tea party in the Commonwealth. While the rest of Britain and Canada were hanging up the bunting at home, an intrepid British-Canadian team were waving flags and eating cake at the highest point of Queen Elizabeth Islands just 560 miles from the North Pole. Central to the ascent of Barbeau peak was an education and outreach programme linking Inuit and UK schools via our interactive IT learning



Fig. 2.1. Members of The Arctic Jubilee Expedition 2012 Descend the Broad North Ridge of Barbeau Peak After Successfully Reaching the Summit. Source: Arctic Jubilee Expedition 2012.

platform. Our interactive discussion boards enabled students from both cultures to interact and discuss questions relating to cultural identity, the Arctic environment and issues of climate change and sustainability. This education and outreach campaign is an extension to the work of Education Through Expeditions (a social enterprise organisation) which has already completed over 350 school visits and workshops. Workshop activities have led to the development of a comprehensive syllabus of polar activities which have been established through strong teacher and school partnerships. We aim to continue this by presenting to over 10,000 students this year.

The expedition received support from the Royal Household by means of patronage by HRH the Prince of Wales and the request of an official Loyal Greeting to HM Queen Elizabeth II from the summit via email; to which she responded. This report details the multidimensional aspects of the expedition, from the planning stages through to our experiences in the field and is intended to be a useful reference for further expeditions. We sincerely hope to provide a springboard of inspiration for others, lasting long into the future by delivering a fitting legacy not only to this expedition, but also to that of the Queen's Diamond Jubilee.



Fig. 2.2. Location of Barbeau Peak, Ellesmere Island, Nunavut. Source: Google (2013).

3. EXPEDITION MEMBERS

Antony Jinman - *Polar Explorer and Team Leader*



Fig. 3.1. Antony Jinman. Source: Arctic Jubilee Expedition 2012.

“The world will benefit from Antony’s efforts to educate and inspire action, and I applaud him for his valiant work.” Will Steger, Polar Explorer and Founder of the Center for Global Environmental Education.

There is no set career path to becoming an explorer. No degree or apprenticeship. Exploration is a realisation of a dream. After five years in the armed forces, Antony left to pursue this dream.

He became an adventure tour guide at 23 and then an expedition leader at the age of 25 and began travelling all over the world. His first trip to the Arctic was the 2007 Baffin Island Expedition for the Mitchem Trust, raising £180,000 for vulnerable children. This was the start of a special relationship as Baffin Island has become the hub for Antony’s Arctic expeditions, which have taken him to Greenland and presented him with the ultimate challenge: the journey to the Geographic North Pole in 2010.

The Geographic North Pole Expedition 2010 saw Antony and his two team mates ski and snow shoe (and sometimes swim) over 500 miles from Cape Discovery to the Geographic North Pole in just 51 days, collecting valuable scientific data for the University of Plymouth. Realising his boyhood dream to reach the North Pole at the age of 29 might seem like the end of his ambition but this is not the case, as it is as an educator rather than an explorer that Antony wants to be remembered. For the past three years he has been developing his school outreach program, visiting schools and communicating his passion for expeditions to children hoping to inspire them like he was by his hero Captain Scott. This work has flourished to become Education Through Expeditions, a Community Interest Company that aims to bring real-time case studies to educators on a global basis.

Chris Atkinson - *ACMG/IFMGA Guide*



Fig. 3.2. Chris Atkinson. Source: Arctic Jubilee Expedition 2012.

Chris's passion in life has always been adventure and sharing those adventures with others. Having grown up on the beaches and in the mountains of Canada it was a logical road in life. His work as an internationally certified mountain guide, former park ranger, photographer, guide book author and Hollywood stunt rigger, all help to fill in his schedule in between adventures.

Chris has had the opportunity to guide and travel all around the world. From exploratory trips in Tibet, ski traverses in the Alps, paragliding through India or river trips in Nepal, life's an adventure. Chris has been lucky enough to work and play in such amazing places as Baffin Island, Patagonia, Tibet, China, New Zealand and the Himalayas. Bringing those adventures to others and continuing to open people's eyes and minds to the world around them and within them continues to inspire Chris.

Johnny Issaluk - Inuit Philanthropist, Athlete and Youth Mentor



Fig. 3.3. Johnny Issaluk. Source: Arctic Jubilee Expedition 2012.

Johnny is an Inuit from Igluligaarjuk, in Nunavut, and has grown up hunting, fishing and camping with his elders as Inuit have for centuries. Johnny works with various organisations that address mental health conditions through counselling and traditional activities.

Johnny is a keen volunteer and youth mentor regularly teaching Arctic games and traditions at youth institutions as one of the most successful Inuit Games athletes of his generation. He is an active Arctic Ambassador and holds Arctic Stewardship for 'Students on Ice', an international student development programme. In February 2012 he was awarded The Diamond Jubilee Medal by the Governor General, on behalf of Her Majesty The Queen, for efforts towards *"improving the health and wellbeing of Nunavummiut"*. Johnny represents an important cultural link in the Education and Outreach Programme of the expedition.

Oliver Milroy - PR manager and Webmaster



Fig. 3.4. Oliver Milroy. Source: Arctic Jubilee Expedition 2012.

Oli is 18 years old and currently working for Education Through Expeditions as the Project Manager and Web Master.

He has a background in the outdoors undertaking many activities from long distance walking all the way through to sky diving. He loves a challenge and thrives from testing his body by putting it through its paces. In addition to this, Oli also holds a passion for presenting in the media industry hence his role on this expedition as PR manager.

Oli said, "I have always had my finger in the expedition pie as it were, so going on this expedition was a transition I have been waiting for and an opportunity like this is one you will rarely see. The AJE is going to be a life changing experience for me personally, providing me with an unique experience that will develop my career as a speaker and presenter, but also developing me as a

person - not every 18 year old can say they are off to the Arctic on an expedition! This project will definitely have a huge impact on my future career and will hopefully open doors that wouldn't otherwise be available to me."



Fig. 3.5. Thomas Perriment.
Source: Arctic Jubilee Expedition 2012.

Thomas Perriment - *Research, Planning and Finance*

Thomas, a 20 year old, is in the final stage of BSc (Hons) Physical Geography and Geology at Plymouth University. Following on from his experiences with The Duke of Edinburgh Gold Award and his international fieldwork experiences at university, he hopes to enter the world of education following PGCE training to become a geography teacher. He has been awarded an Excellence in Teaching Award (The Henry Beaufort School) and the Higher Sports Leader Award (Sports Leaders UK). He has an infallible passion for Arctic environments

and also holds the position of Outreach Coordinator at the UK Polar Network.

Thomas said, "Through this work I can communicate the geography and natural history of the Arctic environment and promote Inuit culture in UK schools. The Arctic Jubilee Expedition is will be a powerful tool in motivation and education. Inspiration through endeavour is key to getting the next generation active and aware of the world around them; a sense of sustainability and environmental awareness is the footprint I wish to leave".

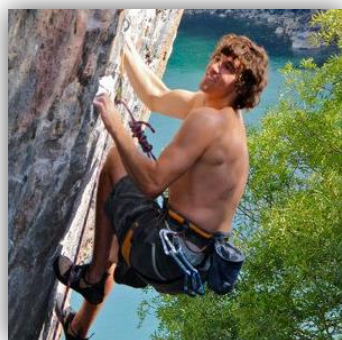


Fig. 3.6. David Buckley. Source: Arctic Jubilee Expedition 2012.

David Buckley - *Logistics and Training*

David is a final year student at Plymouth University studying BSc (Hons) Biological Sciences. He feels that this project is a unique career development opportunity to combine his academic interests in science communication and ecology with a passion for the outdoors and exploration. For David this is an exclusive opportunity and a significant step towards realising numerous life goals. He aspires to develop his skills in science communication and conservation by furthering his education by enrolling on a Master's

Degree programme in Sustainable Environmental Management, enabling him to better assess and contribute to the management of our environment.

David said, "The Arctic Jubilee Expedition is an opportunity for me to be a part of an influential educational outreach programme in the field I wish to pursue, whilst gaining first-hand experience of one the most high profile environments under pressure from anthropogenic climate change."



Fig. 3.7. Benjamin Shearn.
Source: Arctic Jubilee
Expedition 2012.

Benjamin Shearn - *Mentor in Business, events and sponsorship*

Ben is the Managing director/proprietor of the hospitality focused Treasury Group. He has gained over 20 years' experience of starting and operating businesses, and is currently Chairman of the Association of Barbican Businesses, Board Director of the Plymouth Waterfront Partnership and a Trustee of Jeremiahs Journey children's charity. He also has 4 years' experience as the team manager in the British class-1 world powerboat series and is generally a well-travelled

bon viveur!

Ben said, "I am bringing my experience of fundraising, event organisation and corporate engagement to the expedition as a mentor to the students of the team. I hope to guide them on best practice in negotiating sponsorship opportunities and also to help develop and tune their business skills when engaging and promoting corporate-social responsibility as they pursue their chosen careers."

4. FIELD REPORT

4.1. Before the Expedition: Preparation, Background and Location

The Arctic Jubilee Expedition 2012 was established upon Antony Jinman's vision to celebrate the forthcoming Diamond Jubilee of HM Queen Elizabeth II whilst continuing to share his passion of the Arctic environment and its peoples with young people of all ages. In January 2012 Antony shared his idea with Tom, Oliver, David and Ben and invited them to become members of the team. Upon acceptance, the Plymouth based entity of the expedition was formed and preparations began in haste.



Fig. 4.1. Planning the Expedition. Source: Arctic Jubilee Expedition 2012.

Right from the beginning, one of the major hurdles and foremost factors associated with the expedition was the short notice in which the expedition needed to be planned and executed. In order to remain aligned with the Diamond Jubilee a departure date of somewhere around the middle to the end of May 2012 was required, leaving only a maximum of 4 months to plan the expedition. Subsequently, the time frame of the expedition was short meaning preparation and fundraising before departure was intense, requiring a lot of commitment from all members of the team right up until the very moment of departure.

4.1.1. Development of Our Objectives

The development of the expedition's objectives was based upon Antony's previous experience of leading similar expeditions in the past and furthering the work of his social enterprise organisation Education Through Expeditions. By building on Antony's earlier labours, the skills and experience of the team, and the relevant ties between Canada, the UK and the Diamond Jubilee, the diverse aims of the expedition began to take shape.

The team proposed visiting a remote area of the Canadian Arctic which is largely unexplored and rarely visited, whilst coordinating an education and outreach programme as a fundamental element to the project. The prerequisites for the location were important in mind of the expedition's validity in being classed as 'genuinely explorative' and holding the potential to contribute to furthering

knowledge of a particular region, whilst also having relevance to the Diamond Jubilee with the potential of generating sufficient attention for securing sponsorship. The education and outreach programme added a social objective enabling the expedition to make a wider contribution and more substantial impact.

4.1.2. Target Area

Our preferable target location was quickly identified as Ellesmere Island with the intention of visiting the highest point of the Queen Elizabeth Islands, Barbeau Peak. Barbeau Peak is part of the British Empire mountain range which was renamed in celebration of the coronation of the HM Queen Elisabeth II in 1952. Subsequently the location became central to the expedition due to its clear significance and relevance to the Diamond Jubilee as well as being reported as the highest mountain in Eastern North America (excl. Greenland and the Caribbean).

Nevertheless, despite being our preferable destination we were aware that organising and funding an expedition to Ellesmere Island in our short time frame would be a serious challenge. Initial research suggested an expedition budget in the region of £60,000-£80,000 would be needed. In light of this, alternative locations were also explored such as; (a) Devon Island and (b) Somerset Island permitting other objectives of the expedition to be facilitated with a smaller budget if we failed to raise enough funds.

4.1.3. History of Barbeau Peak and Region

Barbeau Peak is located in Quttinirpaaq National Park in the North Eastern corner of Ellesmere Island and is the highest mountain in the British Empire Range and Arctic Cordillera. The surrounding expanse of Quttinirpaaq National Park is situated in Qikiqtaaluk, the most northerly region of Canada and is the second most northerly park in the world behind the North East Greenland National Park. The park was established in 2000 after it was renamed from Ellesmere Island National Park Reserve when Nunavut was created in 1999.

Barbeau Peak was named in 1969 in tribute of Dr. Marius Barbeau a world renowned Canadian Anthropologist who is considered to be a founder of Canadian anthropology and internationally recognised for his research regarding the indigenous peoples of the North. The mountain is commonly recounted to have been first climbed in 1967 by Geoffrey Hattersley-Smith, an English glaciologist as part of an Anglo-Canadian party working with the Canadian Department of National Defence and the Royal Air Force. For a more in depth description of the ascent history of Barbeau Peak, please visit Section 9.2 'Barbeau Peak and Mt. Whistler Ascent History'.

4.1.4. Access and Route Planning

We determined that the duration of the expedition should be 3-4 weeks, attempting to summit Barbeau Peak and encompassing a journey on foot exploring the surrounding region. From this, an initial timeline for the expedition was created remaining flexible and allowing finer details to develop in line with the natural progress of the project.

Table 4.1. Planned Field Timeline before Departure

Day	Date	Description
1	20.5.12	Plymouth to Ottawa via London Heathrow
2	21.5.12	Ottawa to Resolute Bay via Iqaluit and Arctic Bay
3	22.5.12	Drop Off Lake Hazen
4 to 23	23.5.12 - 11.6.12	In the Field
24	12.6.12	Pick Up Lake Hazen
25	13.6.12	Resolute Bay to Ottawa via Iqaluit
26	14.6.12	Ottawa
27	15.6.12	Ottawa to Plymouth via London Heathrow

Research into accessing the region of Ellesmere Island around Barbeau Peak recognised three prevalent destinations to be dropped off; Lake Hazen Camp, Tanquary Fjord Camp and the Grant Land ice cap. These locations have seen frequent use as destinations for visitors to be transported in and out of Quttinirpaaq National Park. Tanquary Fjord and Lake Hazen have gravel air strips and landings can be made on the ice cap in suitable conditions. During investigation it was noted that previous parties had largely either been dropped on the ice cap on the north side of Barbeau Peak (approximately 2-3 days from summit), or at Lake Hazen Camp (approximately 65km to summit). The recommended access for descent suggested a trek out and pick up from Tanquary Fjord (approximately 75km from summit).

As more information was gathered Lake Hazen appeared the most reliable and desirable selection and was consequently pursued as our preferred entry and exit point. It was determined that a drop off on the Grant Land ice cap would be too close to our objective of



Fig. 4.2. Preliminary Route from Lake Hazen to Barbeau Peak. Source: Nunavut Field Unit (2012).

Barbeau Peak and a longer journey would be preferred permitting us to explore more of the region. In addition, on the advice from Parks Canada we were warned that there could be difficulties in accessing Tanquary Fjord from the direction of Barbeau Peak down the Air Force Glacier as getting off the glacier had proven difficult for previous parties. Subsequently, our route planning before departure focussed on routes between Lake Hazen and Barbeau Peak. From previous reports and assessing maps of the region a preliminary route was identified. Nevertheless, a number of routes seemed possible providing the expedition (and future parties) with alternatives if needed or preferred at a later stage.

4.1.5. Celebrating the Diamond Jubilee and Communicating in the Field

Communication from the field was an important feature of the expedition in order to facilitate particular objectives such as coordinating our education and outreach programme and enabling us to send our loyal greeting to HM the Queen, as well as sharing our contribution to the Diamond Jubilee celebrations through hosting ‘the world’s most remote tea party’. These aspects of the expedition meant email contact was necessary with the ability to send a range of different data types. For example, email and photos were required to be sent as part of the education and outreach programme, and our tea party needed to be recorded on video and communicated from the field in synchronisation with the large-scale national celebrations in the UK occurring between the 2nd and 5th June 2012. For further details regarding communicating in the field, please visit Section 5.10 ‘Communications’.

4.2. In the Field

This section outlines the events of the expedition that occurred whilst in the field. For a daily account please visit Section 6 ‘Expedition Diary’.

4.2.1. Delayed in Resolute Bay

The expedition departed the UK on 20th May 2012 and arrived in Resolute Bay on 22nd May 2012 in accordance to our travel itinerary planned before departure. Upon arrival in Resolute Bay we were kindly accommodated by the Polar Continental Shelf



Fig. 4.3. Route Planning in Resolute Bay. Source: Arctic Jubilee Expedition 2012.

Program and awaited our connecting twin otter flight to Ellesmere Island. Due to bad weather conditions the expedition was delayed in Resolute Bay for 6 additional days which forced us to divert from our planned expedition timeline (Table 4.1).

The unplanned delay meant we had to revise our route planning and adapt our objectives in the field. It became clear that we would be unable to complete our intended journey from Lake Hazen to Barbeau Peak in time to co-ordinate our remote Diamond Jubilee tea party with the Jubilee celebrations in the UK occurring between 2nd and 5th June. Numerous routes were suggested in response to the delay, with proposed itineraries being identified on a daily basis exploring a range of drop off destinations. New proposed routes focussed on reducing the distance and time needed to access Barbeau Peak in an attempt to minimise the effect of the delay upon our objectives. Fresh plans pursued to maximise what were able to achieve in the field under the changing time restrictions and included locations such as Lake Ekblaw and the Grant Land ice cap. Due to the severe length of the interruption we encountered, the expedition was eventually forced to be dropped off on the Grant Land ice cap in order to remain on schedule with the Diamond Jubilee celebrations in the UK. Subsequently, the expedition developed in accordance to the following field timeline (Table 4.2.).

Table 4.2. Revised Field Timeline

Day	Date	Description
1	20.5.12	Travel from Plymouth to Ottawa via London Heathrow
2	21.5.12	Travel from Ottawa to Resolute Bay via Iqaluit and Arctic Bay
3	22.5.12	Resolute Bay
4	23.5.12	Resolute Bay
5	24.5.12	Resolute Bay
6	25.5.12	Resolute Bay
7	26.5.12	Resolute Bay
8	27.5.12	Resolute Bay
9	28.5.12	Resolute Bay
10	29.5.12	Resolute Bay to Grant Land ice cap via Eureka
11	30.5.12	Base Camp to Camp 1; Preparation of Diamond Jubilee Tea Party
12	31.5.12	Summit of Barbeau Peak
13	1.6.12	Travel from Camp 1 to Camp 2 via Base Camp; Dispatch of Loyal Greeting
14	2.6.12	Summit attempt of Mt. Whistler postponed; Crevasse Rescue Practice
15	3.6.12	Summit of Mt. Whistler and Fourth Peak East sub-peak B
16	4.6.12	Travel from Camp 2 to Camp 3; Summit of Fourth Peak East and Fourth Peak East sub-peak A
17	5.6.12	Bad Weather Day at Camp 3
18	6.6.12	Travel from Camp 3 to Camp 4; Summit of Third Peak East, Second Peak East, Second Peak East sub-peak and First Peak East
19	7.6.12	Travel from Camp 4 to Base Camp

20	8.6.12	Departure from Grant Land ice cap to Resolute Bay via Eureka
21	9.6.12	Travel from Resolute Bay to Iqaluit
22	10.6.12	Iqaluit
23	11.6.12	Travel from Iqaluit to Ottawa
24	12.6.12	Travel from Ottawa to London Heathrow
25	13.6.12	Travel from London Heathrow to Plymouth

4.2.2. Climbing Barbeau Peak and Exploring the British Empire Range

The changes to our itinerary, resulting in us being dropped off on the Grant Land ice cap, effected the events that occurred in the field by altering the dynamic of the expedition from a journey on foot from Lake Hazen to Barbeau Peak dominated by sledge pulling and ski touring, to one of mountaineering. This deviation caused the expedition to establish a primary focus upon exploring the Grant Land ice cap and climbing as many peaks of the British Empire Range in the vicinity of Barbeau Peak as possible. Subsequently the duration of the expedition was spent travelling around the ice cap, establishing camps on the glacier in the vicinity of each peak from which to climb from. Many of the peaks of the range have either seen a very limited number of ascents or no recorded ascents whatsoever. The following peaks were climbed during the expedition (Table 4.3; Figure 4.4 & 4.5) by the following routes (Figure 4.6).

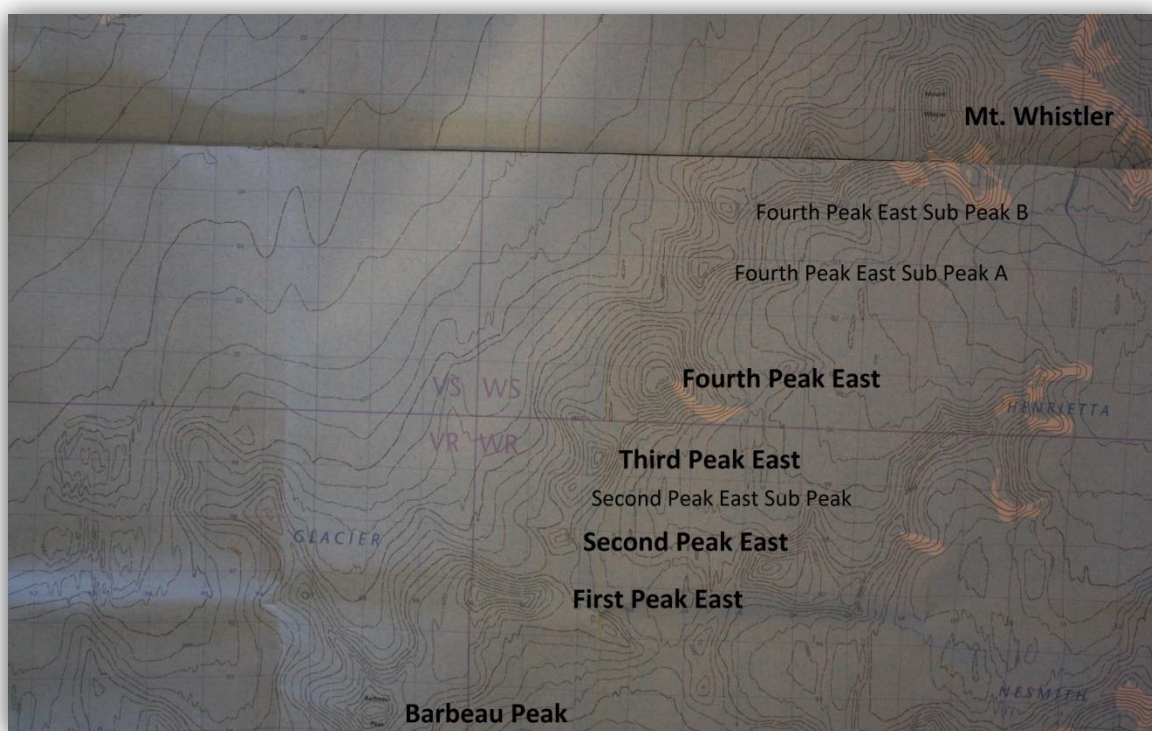


Fig. 4.4. Map of British Empire Range between Barbeau Peak and Mt. Whistler. Source: Arctic Jubilee Expedition 2012.

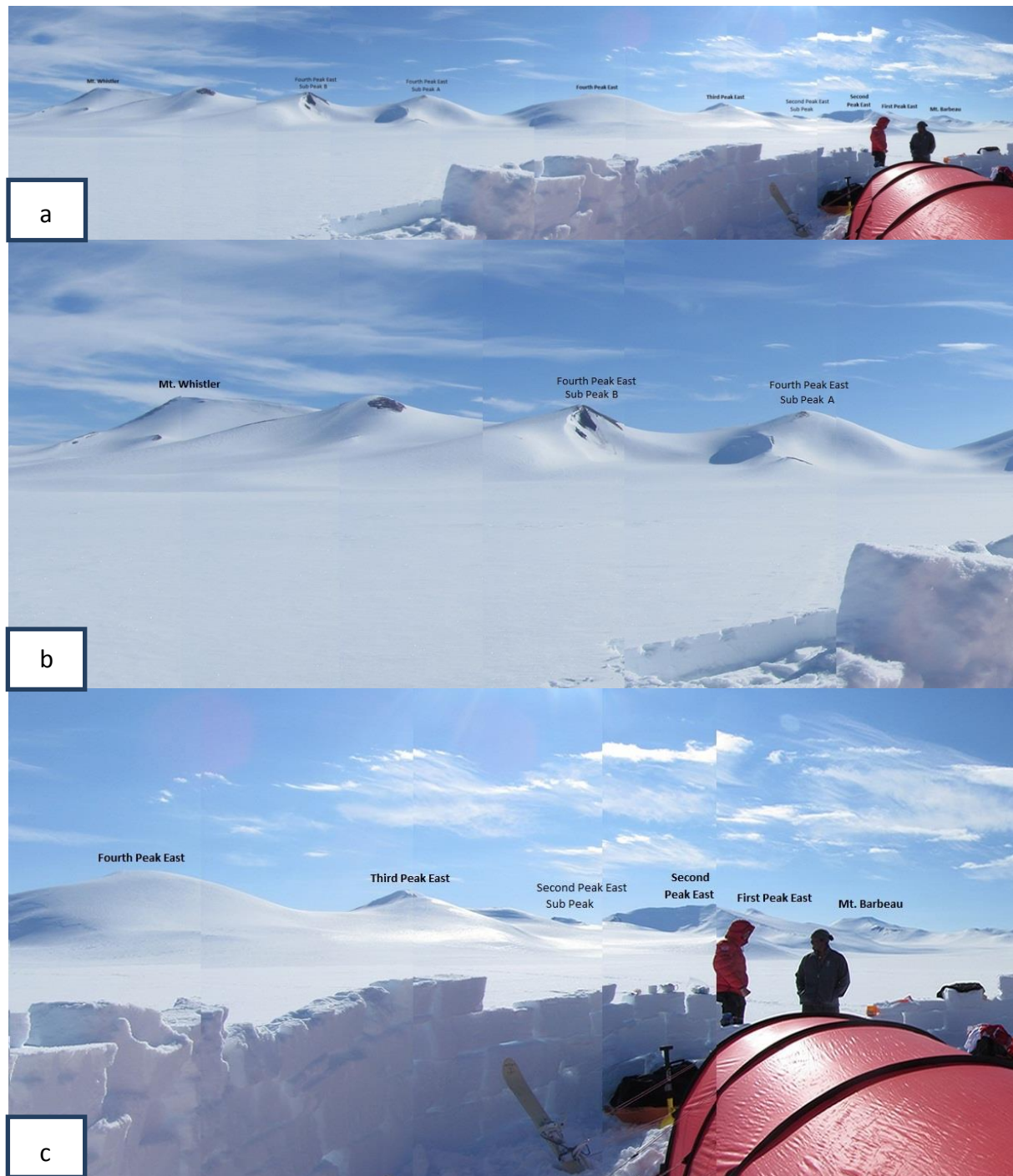
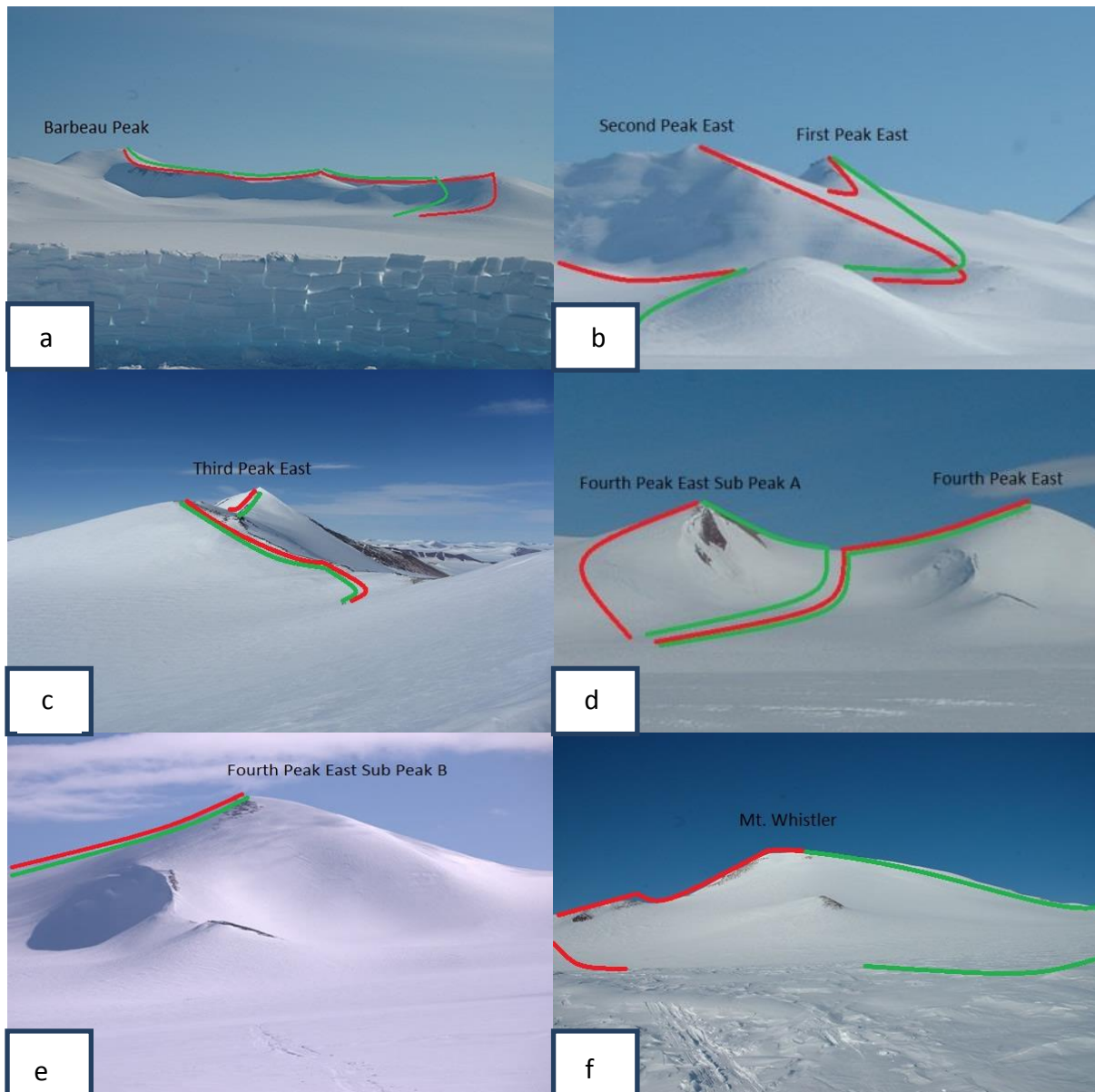


Fig. 4.5. Peaks of British Empire Range Climbed by the Arctic Jubilee Expedition 2012. (a) Full Panoramic. (b) Mt. Whistler and Fourth Peak East Sub Peaks A and B. (c) Barbeau Peak, First Peak East, Second Peak East and Sub Peak, Third Peak East and Fourth Peak East. Source: Arctic Jubilee Expedition 2012.

Table 4.3. Ascents by the Arctic Jubilee Expedition 2012.

Name	Rank	Latitude	Longitude	Elevation (m)	Ascent	Notes	Climbers
Barbeau Peak	1	N 81 54 22.8	W 75 07 12.9	2547	17th Ascent	5-9th Ascent of North Ridge; Elevation recorded as lower than previous recordings	Jinman, A., Atkinson, C., Buckley, D., Issaluk, J., Milroy, O., Perriment, T. & Shearn, B.
First Peak East	3	N 81 54 53.9	W 75 00 36.5	2594	FRA*	Cairn observed on summit; Anomaly - Elevation recorded as higher than Barbeau Peak	Jinman, A., Atkinson, C., & Buckley, D.
Second Peak East	4	N81 55 37.4	W 74 59 08.5	2519	FRA	Cairn observed on summit	Jinman, A Atkinson, C., & Buckley, D.
* Sub Peak				Lower	FRA	Cairn observed on summit	Issaluk, J., Jinman, A. & Milroy, O.
Third Peak East	6	N 81 57 02.0	W 74 51 03.1	2445	FA**		Jinman, A., Atkinson, C., Buckley, D., Issaluk, J., Milroy, O., Perriment, T. & Shearn, B.
Fourth Peak East	5	N 81 57 50.7	W 74 46 30.0	2500	FA		Atkinson, C., Buckley, D., Issaluk, J., Milroy, O. & Shearn, B.
* Sub Peak A				lower	FRA	Cairn observed on summit	Jinman, A. & Perriment, T.
* Sub Peak B				lower	FRA		Jinman, A.
Whistler, South	2	N 82 00 39.4	W 74 31 46.3	2540	4th Ascent	FA North Ridge	Jinman, A., Atkinson, C., Buckley, D., Issaluk, J., Milroy, O., Perriment, T. & Shearn, B.
Whistler, North		N 82 00 48.1	W 74 31 39.4	2539			Jinman, A., Atkinson, C., Buckley, D., Issaluk, J., Milroy, O., Perriment, T. & Shearn, B.

*FRA = first Recorded Ascent; **FA = First Ascent



*Red = Ascent; Green = Descent

Fig. 4.6. Routes Climbed by the Arctic Jubilee Expedition 2012. (a) Barbeau Peak, North Ridge, PD. (b) First Peak East, North Ridge, PD & Second Peak East, North Ridge, PD. (c) Third Peak East, West Ridge, PD. (d) Fourth Peak East, East Ridge, PD & Fourth Peak East Sub Peak A, North Ridge, PD. (e) Fourth Peak East Sub Peak B, East Ridge, PD. (f) Mt. Whistler, North Ridge, PD. Source: Arctic Jubilee Expedition 2012.

4.2.3. Daily Routine

Daily routine was consistent with conventional sleeping patterns usually waking between 7- 8am with team members alternating the responsibility of getting up first and firing up the stove to prepare breakfast and melting any additional snow needed for drinking water. Morning tasks would typically take about two hours to ensure that breakfast was completed, each team had enough water for the day and that camp was struck. The speed of our morning routine was less pressured due to the 24hr daylight and was flexible to the events of each day. Each day was spent either climbing, travelling across the glacier, or both, depending on our objective. In the evening we would identify a suitable camping spot and typically construct camp between 7-9pm.

In each of our camps our two tents would be pitched side by side and defended by a snow wall enclosing the tents, erected in a direction facing and protecting from any prevailing wind. The rear of the tent was



Fig. 4.7. External View of Camp on the Grant Land Ice Cap.
Source: Arctic Jubilee Expedition 2012.

situated closest to the snow wall and access to the tent was gained from the front end. The front end of the tent was defended by arranging our pulks (sledges) in an open quadrangle formation.

Evening tasks were shared and responsibilities rotated between team members with one person taking charge of cooking our evening meal and melting drinking water to be used the next day. This reduced time in the morning as the water needed in the preparation of breakfast was prepared in advance along with the days' supply of drinking water, enabling us to speed up our morning routine. Other members of each tent group were responsible for organising the interior of the tent with personal items and kit, constructing camp defences and toilet facilities as well as any miscellaneous daily tasks. After eating, the rest of the evening was spent coordinating our education and outreach programme, writing in journals and generally enjoying some down time.

4.2.4. Campcraft

Our seven man expedition was split into two tent groups each using two different tents; one Hilleburg Keron 3 GT (Frösön, Sweden) and one Hilleburg Keron 4 GT (Frösön, Sweden). These tents are the flagship tunnel tents of Hilleburg one of the most respected tent manufacturers worldwide.



Fig. 4.8. Internal View of Camp on the Grant Land Ice Cap.
Source: Arctic Jubilee Expedition 2012.

The performance of each tent was noted to be excellent; proving to be sturdy in windy conditions with plenty of space for sleeping and living. The configuration of having two entrances and a large porch was useful for using one end for storage and the other as a kitchen area. Other useful features also included the interior washing line for drying clothes and pinning any items that could be easily lost inside the tent.

Cooking took place in the front porch of the tent where a trench was dug so that the cook could sit comfortably whilst attending to the stove. Small blocks of snow were collected or prepared outside and stored next to the stove ready to be used when needed. The stove would normally be on for around 2-3 hours each evening and an hour in the morning to prepare meals and drinking water. One tent used an MSR Dragonfly stove (Seattle, WA, USA) and the other a MSR Whisperlite stove (Seattle, WA, USA) mounted on plywood.

The Whisperlite was noted to be a lot quieter when working but little difference was noted between them in regards to efficiency. Each tent had a repair kit for its corresponding stove and a spare MSR Dragonfly was available if necessary. The efficiency of the stoves was enhanced by using a wind shield and benefitted from additional wind protection from using them inside the porch of the tent. However effective technique was needed to ensure only a small flame was produced when lighting the stove to reduce the chance of catching the tent on fire. These procedures were rehearsed during training.

When lighting the stove a combination of disposable waterproof matches ignited by disposable lighters was used. These were transported with the stove, and spares were distributed between team members. Fuel was stored in larger 4 litre cans and spread between team members for transportation and safety. The expedition carried around 20 litres of fuel; however plenty remained at the end of expedition due to our reduced time in the field caused as a result of the delay endured in Resolute Bay. Personal hygiene was maintained by using wet wipes. Cooking pots were only used for water and remained clean for the duration of the expedition. Each individual had a mug which was used for eating and drinking which was cleaned after each meal using snow.

4.2.5. Mountaineering

The mountaineering opportunities in the locality of the Barbeau Peak and the Grant Land ice cap are vast. The region has been sparsely visited and research suggests that all of the limited number of trips to this area have focussed on exploring the British Empire Range as opposed to any others. High numbers of the people which have visited the area for climbing have concentrated on summiting Barbeau Peak and appear to have ventured little further, or have done so whilst leaving either a limited or no record of their achievements. Subsequently Barbeau Peak has received a much larger proportion of ascents in comparison to the other peaks of the range. Whilst travelling around the Grant Land ice cap and also from the air, countless mountains offering opportunities at a very wide range of difficulties and styles were observed. These encompassed simple ski ascents and interesting ridges as well as other prospects further away from the locale of this expedition, appearing to feature steep couloirs and big rock walls possibly offering mixed climbing as well.

All of our ascents were completed in an alpine style and we benefited from being able to construct camps relatively close to our objectives. Nevertheless, as seems apparent with the experiences of other expeditions when climbing in the Arctic, distance and scale were difficult to judge meaning some legs and climbs seem to take longer than initially expected. The biggest difficulties of climbing in this region are challenges of an organisational and logistical nature, the costs involved with access, the limited availability of information and the dangers associated with climbing in a location so remote.

The inaccessibility definitely adds to the experience and creates a compelling 'out-there' feeling when climbing. Climbing in the Arctic benefits from the 24hr daylight at high latitudes meaning the risk of benightment is absent and the pressure of keeping a sufficient pace commonly associated with alpine mountaineering is significantly reduced. Navigation is relatively straightforward as maps of the region are available in adequate detail, however we did not experience conditions which demanded a strong reliance on the map as visibility was generally quite good. Nonetheless vigilance is advised when navigating as the accuracy of our map was questioned on a few occasions. GPS was useful in reinforcing decisions when any navigational discrepancies were observed. In conclusion, the area holds lots of potential for future exploration, serving as an interesting destination for visitors of all abilities which would like to experience climbing in a unique and remote location.

4.3. Outcomes of the Expedition

Please enjoy a short documentary film of the expedition here:

<http://vimeo.com/60189505>.

4.3.1. Climbing Barbeau Peak

The expedition achieved its objective of climbing Barbeau Peak, completing the 5-9th ascent via the north ridge (2616m).

In addition to this accomplishment, a further 8 summits were reached including a

possible first ascent of the north ridge of Mt. Whistler (last climbed in 1982) and 7 un-named peaks. Of these peaks, four are believed to be first ascents with three first recorded ascents.

During the expedition one notable and striking discrepancy was observed between our pre-departure research and our experiences on the ground that should be relevant for future parties. Upon summiting Barbeau Peak, our GPS reading of its elevation was measured to be lower than research had described (2547m instead of 2616m). Consequently, during this expedition the first peak east of Barbeau (2594m) was documented to be the highest peak that the expedition climbed in the range despite Barbeau being widely cited as having a greater elevation (2616m) in pre-departure research (Table 4.3.). Nevertheless, in mind of this unusual and possibly controversial observation, it must be mentioned that the weather on the summit was poor which may have hindered the reading by disrupting the satellite signal. In mind of this possibility, when in the field a number of GPS readings were taken at a range of places upon the summit before determining the spot we believed to be the highest.

Due to the weather our recording was initially regarded as an anomalous result, however based upon deeper investigation clear reasoning for the result has not transpired. There is a lack of recent expedition reports and limited GPS data documenting the elevation of Barbeau Peak to corroborate our results with. References citing the elevation to be 2616m appear to be based upon DEM analysis and map work which suggests that an error range of up to ± 100 metres may apply. Consequently, the expedition recommends that future visitors to the region attempting to summit Barbeau Peak should place emphasis on taking elevation readings which can be used to verify our findings in the



Fig. 4.9. Summit of Barbeau Peak. Source: Arctic Jubilee Expedition 2012.

future. Furthermore, more detailed mapping efforts in the region would be an effective method of further substantiating this observation.

4.3.2. Celebrating the Diamond Jubilee

Please view the video greeting of our remote Diamond Jubilee Tea party here:

<https://vimeo.com/43826935#at=0>.

4.3.3. Raising Awareness, Promoting the Arctic Environment and Fostering Global Citizenship



Fig. 4.10. Remote Diamond Jubilee Tea Party. Source: Arctic Jubilee Expedition 2012.

4.3.3.1. Education and Outreach Programme

The benefits and feedback which has been received in response to our education and outreach programme has been positive and widespread. Through the development of a range of educational and inspirational resources, the expedition has contributed to generating effective cross curricular workshops promoting personal development and providing greater emphasis

to be placed upon environmental issues and global citizenship within the National Curriculum. In addition to this, media opportunities have been offered with local press, as well as providing participants to become part of a growing network of international schools and offering access to inspiring scientists and explorers.

A key resource established by the expedition was the daily dispatches transmitted from the field, covering a variety of topics describing the details and experiences of the expedition including expedition life, cultural identity and the Arctic environment. This resource and others prepared in the field have been used for the development of further educational and inspirational resources used in workshop activities delivered in the UK. Information in our dispatches is similar to that found in the expedition

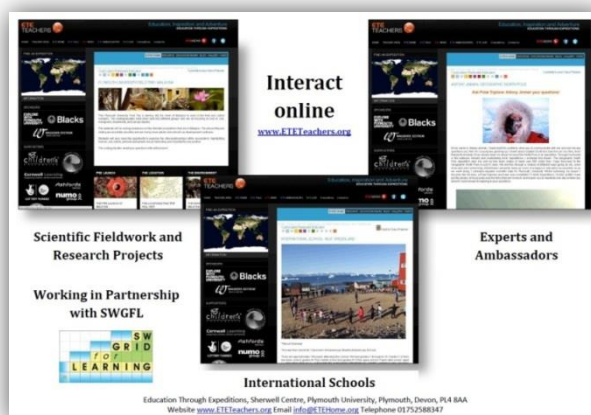


Fig. 4.11. Online IT Platform and Discussion Boards. Source: Education Through Expeditions.

diary due to the sometimes analogous nature of the content. Please view the expedition dispatches at: <http://www.etelive.org/arcticjubilee>. Other resources that have been generated also include the production of films and photography portfolios documenting the expedition. These provide visual demonstrations of particular aspects of life on the expedition such as; preparing food, building an igloo and the types of clothing and equipment required to live and work in extreme environments.

Please see some of the feedback we have received in response to our education and outreach programme below.

“My class and I very much enjoyed Antony Jinman’s visit to our school and it captured the interest and enthusiasm of many of the pupils. The workshop he gave on glaciers was extremely interesting and informative, and many of the facts were new to the girls at SHJS. The girls in my class produced some follow up work which demonstrated how much they learned and how much they enjoyed the experience, which has formed a great display in our form room. We would be keen to keep in touch and follow his future expeditions at school, particularly the one coming up that is heading to Antarctica. The online platform enabled us to keep in touch and know how much progress the team had made.” Lucy Szemerényi, Year 6 Teacher.



Fig. 4.12. How to Interact With the Online Platform. Source: Education Through Expeditions.

“A huge thank you once again for a really fabulous couple of days spent with you here. The Y5 and 6 children all thoroughly enjoyed their Polar Expedition Day; packed with such a fantastic range of activities and creating a wonderful learning experience for them.” Jill Apperley, Year 6 Teacher.

“A very informative and well organised day where both the staff and children learned a lot; [following the Polar Fun Day] children

were bringing work into school that they did in their own time.” Year 4 Teacher, Christ Church C of E Primary School.

4.3.3.2. Charity Fundraising

The expedition raised £4829.75 for our charity Jeremiah’s Journey. Jeremiah’s Journey is a Plymouth based Charity which offers support and advice to children and their families when someone special

has died. For more information please visit: <http://www.jeremiahsjourney.org.uk>.

4.3.3.3. Media Coverage

The expedition wanted to expose its cause and message in the public domain as much as possible by attracting the interest of the media both locally and nationally. In addition to raising awareness, this feature was essential when working with our sponsors and supporters. The estimated value of the media coverage generated by the Arctic Jubilee Expedition was £566,503. The expedition featured in a range of publications locally, nationally and internationally. Coverage of particular significance included;

Half page spread in Hello Magazine sold globally

Worth individually- £23,755 per country sold

Overall- £23,755

Source- Hello magazine rate card-

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CFAQFjAA&url=http%3A%2F%2Fwww.hellomagazine.com%2Fmarketing%2Fdescarga.html&ei=CZMOUIOuB4y10QWz_oHYDw&usq=AFQjCNF39s0BS_vBaQCxosQ1w0ikwiCsgg&sig2=4kTDOEFDybpMHBb-WDG3pg

3 full-page spreads in the Daily Telegraph in colour

Worth individually- £59,000

Overall- £177,000

Source- Telegraph rate card-

http://i.telegraph.co.uk/telegraph/multimedia/archive/01790/Rate_Card_1790821a.pdf

1 full-page spread in the Sunday Telegraph in colour

Worth individually- £42,000

Overall- £42,000

Source- Telegraph rate card-

http://i.telegraph.co.uk/telegraph/multimedia/archive/01790/Rate_Card_1790821a.pdf

1 article in the Daily Mirror in colour

Worth individually- £36,800

Overall- £36,800

Source- Mirror group rate card-http://www.mirrorgroup.co.uk/?page_id=44

1 article in the Daily Mail in colour

Worth individually- £45,612

Overall- £45,612

Source- mail connected rate card-<http://www.mailconnected.co.uk/uploads/files/Daily-Mail-Ratecard.pdf>

1 ITV National TV piece – 1 Minute

Individual cost for a 30 second advert- £24,667

Overall worth is £49,334

Source- comparable to the ITV Advert rate card-

<http://www.itvmedia.co.uk/assets/itvmedia/content/downloadables/spot%20costs%20-%20itv%20media%20-%20itv1%20and%20multichannel%20-sept%2011.pdf>

1 BBC National TV piece – 3 Minute

Individual cost for a 30 second advert - £24,667

Overall worth is £148,002

Source - comparable to the ITV Advert rate card-

<http://www.itvmedia.co.uk/assets/itvmedia/content/downloadables/spot%20costs%20-%20itv%20media%20-%20itv1%20and%20multichannel%20-sept%2011.pdf>

12 full page spreads in local newspapers owned by South West Media Group

Worth individually - £3,000

Overall - £36,000

2 Radio Plymouth Interviews of average 10 minutes

Worth individually per minute- £200

1 Interview is worth- £2000

Overall worth is £4,000

Source- Heart Radio advertising rates card - standard commercial radio pricing.

2 Radio St Austell Bay radio interviews of average 10 minutes

Worth individually per minute- £200

1 Interview is worth- £2000

Overall worth is £4,000

Source - Heart Radio advertising rates card - standard commercial radio pricing.

2 Cross Rhythms radio Interviews of average 10 minutes

Worth individually per minute- £200

1 Interview is worth- £2000

Overall worth is £4,000

Source - Heart Radio advertising rates card - standard commercial radio pricing.

5 BBC Devon interviews lasting an average of 10 minutes

Worth individually per minute- £200

1 Interview is worth- £2000

Overall worth is £10,000

Source - Heart Radio advertising rates card - standard commercial radio pricing.

2 BBC spotlight News interviews lasting an average of 5 minutes

Individual cost for a 30 second advert- £545

Overall worth is £2,180

Source - Comparable to the ITV Advert rate card-

<http://www.itvmedia.co.uk/assets/itvmedia/content/downloadables/spot%20costs%20-%20itv%20media%20-%20itv1%20and%20multichannel%20-sept%2011.pdf>

3 BBC Devon web listing

Worth individually per minute- N/A

1 Interview is worth- N/A

Overall worth is N/A

3 BBC National web listing

Worth individually per minute- N/A

1 Interview is worth- N/A

Overall worth is N/A

2 CBC National Articles

Worth individually per minute- N/A

1 Interview is worth- N/A

Overall worth is N/A

4 National articles in adventure magazines

Worth individually per minute- N/A

1 Interview is worth- N/A

Overall worth is N/A

Listed on 29 National independent websites

Worth individually per minute- N/A

1 Interview is worth- N/A

Overall worth is N/A

4.3.4. Providing career development opportunities to young people

4.3.4.1. Diverse Opportunities

Providing career development opportunities to young people was a central theme throughout the planning and execution of the expedition. The team was constructed of young individuals and experienced professionals which acted as mentors in their relevant disciplines to the less experienced members of the team. In addition to the team members, further opportunities were given to students at Plymouth University to volunteer and support the expedition during the planning and preparation phases.

The expedition gave participants the opportunity to develop a broad range of skills essential in planning and executing an expedition which can be utilised in both their forthcoming careers as well as being useful for any

future expeditions. These skills included; expedition logistics, report writing, grant writing, fundraising, public speaking, preparation of a range of literature and media projects, photography and film skills, presenting, media liaison experience, research skills, event management, teamwork, leadership, marketing, route planning, and business negotiation strategies. Skills developed in the



Fig. 4.13. Student Volunteers. Source: Arctic Jubilee Expedition 2012.

field included; winter mountaineering skills, rope and crevasse rescue techniques, hazard perception skills, teamwork and camp craft.

4.3.4.2. Testimonials

Please find tributes to the role of the Arctic Jubilee Expedition in providing career development opportunities below.

“Since returning back from The Arctic Jubilee Expedition my life has expanded greatly as a result of the professional and personal development associated with taking part in this project. I first heard Antony speak in my school at the age of 16 and decided that one day I would love to be able to stand in front of a class and tell them my story as well. Since travelling to Ellesmere Island, I have now completed 47 school visits to share our journey with as many young people as I can in the hope of inspiring others to think about what opportunities are out there.

As an additional consequence of the expedition, new doors have opened for me in relation to my professional aspirations of working in the media industry. I am continuing to build on my background in the media by utilising the different ways of how an expedition can lead me to living my dream of travelling whilst incorporating my passion for the media industry. I have gained many new lifelong skills which have since allowed me to undertake another climbing expedition in Scotland. Through my experience as a member of The Arctic Jubilee Expedition I have realised how far I can push my body and how much I can test myself, which has led me to my new challenge of aiming to become the youngest person to row the Atlantic solo.” Oliver Milroy.

“Without the opportunities offered by the Arctic Jubilee Expedition I feel that my experience as a student at Plymouth University would not have been the same. My role as a team member of this expedition has presented me with an exclusive opportunity for personal and professional development by providing a unique environment for practicing the skills obtained from my degree, as well as building upon other personal attributes and aspirations. It is the unique blend of academia and exploration that I have encountered which has driven me to continue my studies by enrolling on a Master’s degree programme in Sustainable Environmental Management. I feel that my involvement with the Arctic Jubilee Expedition has directly benefited me by accelerating my progression by learning new skills, taking on new challenges and inspiring me to achieve my full potential. I really look forward to continuing my journey as a young scientist and sincerely hope that the skills I have developed continue to play an integral part of my studies and desired lifestyle” David Buckley.

4.3.5. Noteworthy Recognition for the Expedition

The expedition received noteworthy recognition from the Royal Household through correspondence by means of a loyal greeting sent to HM the Queen upon reaching the highest point of the Queen Elizabeth Islands, Barbeau Peak and HRH the Prince of Wales kindly acting as patron. In addition, the expedition was also awarded to carry the prestigious flag of the Explorer's club which has been carried by club members on hundreds of expeditions since 1918 and represents an impressive history of bravery and achievement.

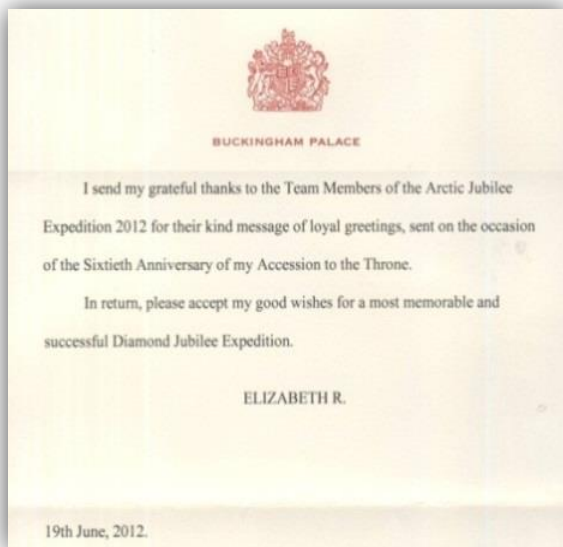


Fig. 4.14. Loyal Greeting from HRH Queen Elizabeth II. Source: Arctic Jubilee Expedition 2012.



Fig. 4.15. Explorer's Club Flag. Source: Arctic Jubilee Expedition 2012.

5. ADMINISTRATION AND LOGISTICS

5.1. Destination Area, Research Materials and Information Sources

An adequate but basic overview of the region and its history consisting of fundamental information regarding the environment, climate, vegetation and wildlife can be readily accessed from a simple web search. However, more detailed information can be difficult to source making logistical and route planning considerably more challenging. Currently, no guidebook exists for this region and there are limited numbers of reports from previous expeditions and visitors. The most effective and comprehensive method of research was contacting the organisers and participants of previous expeditions directly, as well as seeking advice from relevant organisations such as Parks Canada, the Royal Geographical Society and the Royal Canadian Geographical Society.

Table 5.1. Useful Advisors and Resources

Advisors	Resources
Parks Canada	British Alpine Journal
Royal Geographical Society	American Alpine Journal
Royal Canadian Geographical Society	Canadian Alpine Journal
Natural Resources Canada	

5.2. Satellite Images and Maps

The destination area was assessed using satellite images obtained using Google Earth and various maps of the region. Please note that Google Earth images of North Eastern Ellesmere Island (encompassing Barbeau Peak and the Grant Land ice cap) are currently unavailable in any useful detail. The following maps were used to reliably assess the terrain for specific logistical strategies and route planning;

- 340 – D/15
- 340 – D/16
- 340 - D
- 340 – E/1
- 340 – E/2
- 340 – E/H
- 120 – F/4
- 120 – C/13
- 120 – F/G
- 120

5.3. Training and Equipment Testing

5.3.1 Physical Training

Each individual team member was responsible for their general personal physical fitness in the run up to the departure of the expedition. A combination of cardiovascular and strength training was recommended. Popular methods by which this was achieved were through various gym based

sessions, running, circuit training, climbing, hiking and hunting.



Fig. 5.1. Training on Dartmoor. Source: Arctic Jubilee Expedition 2012.

More specific physical training was undertaken as a team in accordance to certain expected demands of the expedition including; carrying weighted rucksacks and tyre hauling to simulate the drag of a pulk laden with equipment. This training was completed between February and May 2012 in Dartmoor

National Park, Devon, UK in variable weather conditions. Sessions were normally completed 1 -2 times per week for duration of 3-4 hours.

5.3.2. Technical Training

Technical training was delivered by the experienced members of the team and outside support where necessary. A combination of theoretical and practical sessions was carried out in both *in situ* and *ex situ* environments before and during the expedition. Techniques such as basic winter climbing skills, camp craft, rope technique, knots, avalanche awareness theory, safety procedures e.g. crevasse rescue and basic first aid were covered. The following books were found to be good sources of information and are widely recommended titles. These publications are also used as handbooks for many of the courses offered by the Mountain Training Association, UK.

Cunningham, A. & Fyffe, A. (2006). *Winter Skills: Essential walking and climbing techniques*. Hinkley, UK: Cordee.

Peters, L. (2011). *Rock Climbing: Essential skills and techniques*. 2nd ed. Sheffield, UK: Vertebrate Graphics Limited.

5.3.3. Location of Training

Ex situ training occurred between February and May 2012 with theoretical sessions at Education Through Expeditions, Plymouth, Devon, UK and practical sessions completed in Dartmoor National Park, Devon, UK in variable weather conditions. Further *ex situ* training with particular reference to crevasse rescue procedures took place at the Polar Continental Shelf Program Complex, Resolute Bay, Canada. *In situ* training took place on the Grant Land ice cap, Ellesmere Island, Canada, where any theoretical knowledge was reinforced and other information and skills revised.

5.3.4. Equipment testing

The expedition tested a number of different items for the following brands; Blacks, Berghaus, Wonderbag and CW-x. All equipment was assessed by the team under the directions of each individual company concerned and feedback given on return from the expedition. For further feedback on any of the items tested, please contact the expedition members directly.

5.4. Permission and permits

The following permission and permits were sought for the expedition;

- Parks Canada National Park entry permit required for each individual.
- Parks Canada Business Licence required for expedition party.
- Parks Canada Guiding Licence required for expedition party.
- At least one team member required to hold IFMGA mountain guide status for glacial travel within the national park.

5.5. Fund-raising

Funding of the expedition was achieved by grants, private donations and corporate sponsorship. The Arctic Jubilee Expedition would like to thank all its sponsors and supporters. To view our sponsors and supporters, please visit the sponsors and supporters page (Page 1) and the income segment of Section 6.6 'Finances'.

5.6. Finances

This section displays the expedition accounts. Large international transactions were performed by buying credit with World First (www.worldfirst.com, Virginia, USA) as they offered better exchange rates when compared to high street banks in the UK.

Table 5.2. Income of Arctic Jubilee Expedition 2012

Description	Money In
Plymouth University	1000
Nunasi Corporation	312.38
Canadian Royal Geographic Society	1519.51
Una Group	500
STEM Group	500
Jeremiahs Journey	5000
City College Plymouth	5000
Accrue Training	1600
Ginsters	2500
Wonderbag	5000
Explore	2500
Events	458.6
Roland Levinsky Grant 2012	1500
Private Donations	21638.43
Interlube systems	500
PSB	400
Bank Interest	15.25
TOTAL	49944.17

Table 5.3. Expenditure of the Arctic Jubilee Expedition 2012

Expenditure	Description	Money Out
Printing, Postage, Documentary Film Production	Education Through Expeditions	1002.96
Logistic Fees; Twin Otter Charter incl. fuel and all handling, take-off and landing fees, accommodation in Resolute Bay and fuel for stoves.	Natural Resources Canada	24286.09
Communications	NSSL Global	345.15
	Explorers Web	4299.94
International and Domestic Flights, Transfers and Baggage Costs	Budget Air	4658.95
	First Air	10886.46
	Airport Transfers	380
	PARS 2000	61.14
	Air Canada	515
Equipment	Cotswolds Outdoor	72
	Sports Direct	43.96
	Halfords	11.98
	Lawson	7.17
	Mountain Coop	53.33
	Snowsled	665.76

	Aquapac	70
Medical Supplies	Boots	125.03
	Superdrug	11.55
Administration and Permit Fees	Explorers Club	155.08
	Parks Canada	147.11
	Santander	10
Insurance	Rock Insurance	177.49
Food	Mountain House	554.4
	Tesco	12.31
Transit Subsistence	Subsistence	476.17
	Holiday Inn	588.64
Pre-Departure Travel Expenses	First Great Western	326.5
	TOTAL	49944.17

5.7. Insurance

The expedition held a worldwide travel insurance policy with Big Blue Cover (Rock Insurance Services Ltd., Sussex, UK) for the expedition members who are citizens of the UK. Additional winter sports cover was needed for the policy to be applicable. Expedition members which are citizens of Canada organised their own insurance personally due to the expedition taking place in Canada.

5.8. Transport, Travel and Freight

Our international flights were organised with Air Canada, Canadian domestic flights were arranged with First Air and our twin otter connection to the field arranged with Natural Resources Canada. No additional arrangements were made for transporting our equipment. All equipment was transported to our destination with the team on our flights outlined in the itinerary. The expedition incurred no charge for additional baggage on domestic flights from Ottawa to Resolute courtesy of First Air. However a cost was sustained for exceeding the baggage limit on international flights from Ottawa to London Heathrow. The following travel itineraries detail our journey inclusive of any necessary amendments made in the field due to weather delays at Resolute which disrupted our outward journey to Ellesmere Island.

Table 5.4. Planned Travel Itinerary

Depart						Arrive	
Date	Time	Carrier	Flight	From	To	Date	Time
Outward							
20.05.12	15:15	Air Canada	AC888	London Heathrow (LHR)	Ottawa (YOW)	20.05.12	17:50

<i>*1 night in Ottawa</i>							
21.05.12	09:15	First Air	7F 860	Ottawa, ON	Iqaluit, NU	21.05.12	12:25
21.05.12	14:30	First Air	7F 882	Iqaluit, NU	Arctic Bay, NU	21.05.12	17:37
21.05.12	18:05	First Air	7F 882	Arctic Bay, NU	Resolute Bay, NU	21.05.12	18:09
Return							
14.06.12	06:30	First Air	7F 883	Resolute Bay, NU	Arctic Bay, NU	14.06.12	08:33
14.06.12	09:00	First Air	7F 883	Arctic Bay, NU	Iqaluit, NU	14.06.12	12:05
14.06.12	13:45	First Air	7F 861	Iqaluit, NU	Ottawa, ON	14.06.12	16:50
<i>*1 Night in Ottawa</i>							
15.05.12	23:35	Air Canada	AC888	Ottawa (YOW)	London Heathrow (LHR)	16.06.12	11:10

Table 5.5. Changes to Travel Itinerary Due to Weather Delays

Depart		Carrier	Flight	From	To	Arrive	
Date	Time					Date	Time
Return							
09.06.12	15:00	First Air		Resolute Bay, NU	Arctic Bay, NU	09.06.12	17:03
09.06.12	17:30	First Air		Arctic Bay, NU	Iqaluit, NU	09.06.12	20:35
<i>*2 Nights in Iqaluit</i>							
11.06.12	13:45	First Air	7F 861	Iqaluit, NU	Ottawa, ON	11.06.12	16:50
<i>*1 Night in Ottawa</i>							
12.06.12	15:00	Air Canada	AC457	Ottawa (YOW)	Toronto (YYZ)	12.06.12	16:00
12.06.12	18:15	Air Canada	AC856	Toronto (YYZ)	London Heathrow (LHR)	13.06.12	06:25

5.9. Food and Accommodation

5.9.1. In the Field

Food eaten in the field was sourced, prepared and transported from the UK. Water was sourced *in situ* by melting snow. Accommodation whilst in the field consisted of camping.

Breakfast - Porridge (75g rolled oats, 13g powdered milk, 8g brown sugar, 20g fruit/chocolate).

Lunch - 1 x Cuppa Soup; 1 x Noodles; 1 x Pork Scratching's; 1 x Nutri-Grain Bar; 1 x Bag of Trail Mix (nuts, seeds, dried fruit); 4 x Small Chocolate Bars.

Evening Meal - 1 x Mountain House Dehydrated Meal (*Potato flakes were added to some meals to increase calorific content).

5.9.2. In Transit

Additional meals were taken during transit in conjunction with our accommodation as well as in various local restaurants. Before departure, 2 nights' accommodation was arranged in Ottawa, Ontario (1 outbound and 1 return) and 3 nights' arranged at the Polar Continental Shelf Programme (PCSP) in Resolute Bay, Nunavut.

In response to delays due to bad weather in Resolute Bay, an additional 4 nights' accommodation was negotiated with the PCSP and another 2 nights' accommodation was organised in Iqaluit on the return journey. For the accommodation in Iqaluit the team were guests of team member and Iqaluit resident Johnny Issaluk.

5.10. Communications

Communication was necessary to keep in regular contact with our UK based team and the Polar Continental Shelf Programme in Resolute, to ensure that others were aware of our location and to maintain the effective function of our education and outreach programme and to successfully transmit our video loyal greeting in time for national celebrations in the UK. When in the field the predominant method of communicating was by Iridium satellite phone (McClean, VA, USA). One satellite phone was held by the leader of each tent group. The Iridium OpenPort system (McClean, VA, USA) was used in order to send our loyal greeting to the Queen. The Iridium phones were also used every evening to be connected to the laptop as an internet hot-point to send a blog live to our website. Future parties should note that Iridium is currently the only provider of satellite coverage in this region.

During the expedition we suffered from certain technical difficulties which resulted in losing connection to the internet for reasons unknown to us. The laptop used battery power very fast in the cold conditions but this could be counteracted with the solar panel in sunny conditions. Nevertheless, if there was not enough sunshine the amount of energy produced wasn't sufficient to power the solar panel. Additional difficulties included; damaging the output cable from the expedition battery meaning we were unable to charge the laptop, however this was easily repairable. The Iridium open port system was large and not easy to transport so we ended up caching it for the duration of the expedition at our initial camp. In order to connect the Iridium phone to the laptop you had to go through a series of steps in order to create a connection, this was a very confusing

process which ended up having to be repeated numerous times. We also forgot the sim cards for the Iridium OpenPort system, meaning replacement sim cards were frantically sourced in the field whilst in Resolute Bay.

Although it was of little inconvenience on this expedition because the Iridium Open Port system was able to be cached at one of our camps, transporting it could have been difficult due to its large size. Subsequently on longer journeys or in instances where caching the system would not be appropriate, a thorough assessment of the benefits and costs regarding its usefulness is highly advised. Nevertheless it is the only piece of equipment available to be used in this region facilitating large files to be sent meaning it was essential to our expedition by permitting us to send our video loyal greeting.



Fig. 5.2. Communicating from the Field with the Iridium OpenPort System. Source: Arctic Jubilee Expedition 2012.

Additionally, an extra expedition battery would have been useful to allow one battery to be on charge when the other was in use. From our experience we determined that professional courses would be highly advisable to gain a deeper understanding of the various types of equipment and how they function. This would facilitate easier problem solving in the field whilst also ensuring that each of the various devices is used to its full potential. Nonetheless, overall assessment dictates that all the communications equipment used on the expedition would be recommended and used again. Please visit Section 9.1.2. 'Communication Equipment' for an inventory of the communication equipment used by the expedition.

5.11. Photography, Sound-recordings, Video and Film

The expedition used photography and film to document the journey. It was an integral part in preparing our loyal greeting to HM the Queen, developing resources for our education and outreach programme, as well as communicating our experience with our sponsors and supporters. The following equipment was used and found to be reliable in the field; Nikon D-70 Digital SLR (Nikon UK Ltd., Surrey, UK), Panasonic HDC-TM 300 Video Camera (Panasonic UK, Berkshire, UK), Panasonic Lumix DMC-FZ150 Digital SLR (Panasonic UK, Berkshire, UK) and a Go Pro Sports Camera (San Mateo, CA, USA).

5.12. Risks and Hazards

The potential risks facing the expedition and its members are described in the expeditions risk assessment. For further information please visit Section 9.3 'Expedition Risk Assessment'. On completion of the expedition it was concluded that the risk assessment was adequate and no changes needed to be made. During our research before departure certain hazards were specifically identified as threatening and that further comment of our experiences regarding these dangers could be useful to future parties.

5.12.1. Polar Bears

Due to the inland location of the Grant Land ice cap we were advised by Parks Canada that coming into contact with a polar bear would be very unlikely. Our experience was consistent with this guidance as no bears were sighted during the expedition. Nevertheless, we did carry the necessary bear deterrents such as a shotgun and rifle for protection.

5.12.2. Crevasses

Crevasses had been noted as being a significant hazard during pre-departure research; however no incidents occurred on the expedition. When in the field, crevasses were encountered fairly frequently when travelling on the glacier as well as when climbing with their size varying from a few centimetres to a few metres. Snow conditions dictated that it was safe to travel largely without roping up whilst moving mindfully to avoid the larger crevasses which were relatively easily recognisable. A probe was carried in order to assess the thickness of the snow and crevasse danger when necessary.

5.12.4. River Crossings

Previous expeditions had identified that encountering tricky river crossings would be likely when travelling from Lake Hazen to Barbeau Peak. Upon this advice each individual carried a set of wetsuit boots to be used as alternative footwear in the water and river crossing techniques were explained and practiced during training. Due to the changes made to the expedition's drop off destination from Lake Hazen to the Grant Land ice cap resulting from delays by bad weather, we are unable to comment on the significance of river crossings in the region as none were encountered.

5.12.5. Cold Injuries

Methods of prevention and treatment of cold injuries were covered during training in order to raise awareness of the risks that we likely to be encountered in the Arctic. Whilst in the field, team

members were checked by each other by observing and inquiring about any potential symptoms. The weather during the expedition was relatively pleasant with temperatures ranging between minus 5°C and minus 20°C. No incidents occurred.

5.12.6. Avalanches

During the expedition the risk of avalanches was considered to be minimal. The weather was fairly stable with limited snowfall, the snow pack was well consolidated and no evidence of avalanches was observed. A probe and shovel were used to assess snow conditions when necessary.

5.13. Medical Arrangements

Due to the remote location of the expedition and the long response time by any additional medical support, the expedition needed to be self-sufficient in its medical care wherever possible. Preparations were completed before departure to make each expedition member aware of any potential risks associated the expedition and how to prevent injury. Further details of these plans are outlined in Section 9.3.1 'Expedition Risk Assessment'. Any existing health problems were declared in advance to the team leader in order to ensure that a suitable provision of care for any existing health complications was made.

A number of members of the expedition held a variety of first aid qualifications as well as having relevant wilderness first aid experience. Medical provisions were available in the personal medical kit of each team member as well as having access to a comprehensive group medical kit. The contents of the expedition medical kit were designed on the advice of a doctor. Please see Section 9.1.5 'Medical Supplies' for a comprehensive inventory. For further information regarding expedition medicine, see the Oxford Handbook of Expedition and Wilderness Medicine or the RGS – IBG Expedition Medicine Manual. Information on these publications can be found at:

<http://www.rgs.org/OurWork/Publications/EAC+publications/Expedition+medicine/Expedition+Medicine+Manuals.htm>

In the case of an expedition member needing to be evacuated, the following procedure was designed to be followed. Emergency communication was provided by the responsible use of a range of electrical communication devices for specific use in remote environments. These included; Iridium satellite phone (McClean, VA, USA), SPOT satellite tracker/messenger (Milpitas, CA, USA) and Kannad SafeLink Cat 1 GPS EPIRB (McMurdo Ltd., Portsmouth, Hampshire, UK). The devices were to be used to contact Parks Canada in the event of an emergency and an evacuation would then be coordinated in accordance to the Parks Canada evacuation procedure.

6. EXPEDITION DIARY

The expedition diary of the Arctic Jubilee Expedition 2012 aims to give a detailed day to day account of the expedition, outlining the duties performed by the team on each day. Whilst in the field, information such as distances, sites, routes, noteworthy landmarks and any other information relevant to the objectives of the expedition are provided wherever possible. Contributions to the expedition diary have been made by all the participants of the expedition to document the journey and experience through the eyes of the whole team.

Much of the content presented in this diary was essential in the education and outreach aspects of the expedition. The active, daily events of the expedition were dispatched and displayed on the expedition blog for our public and student followers to track. Subsequently, some of the content can also be viewed in an alternative format elsewhere (e.g. the expedition's dispatches and online resource) that displays the vast range of information transmitted by the team, which has been used as the basis for various educational activities teaching the audience about the Arctic region and life on the expedition).

Day 1

Date: Sunday 20th May 2012

Location: Ottawa, Ontario, Canada

Antony Jinman - Successful progress made today with a comfortable journey from Plymouth to Heathrow and an enjoyable flight to Ottawa. We touched down in Ottawa earlier than expected, arriving in 32 degree heat and meeting up with Chris, the first of our Canadian team mates greeting us at arrivals. The flight and drive went very well with an early arrival into our destination.

In the evening we enjoyed an evening meal together, sampling local Canadian cuisine and had a chance to meet some of the local community. All in all our first Canadian steps have been relatively smooth, now the flight up to Resolute Bay tomorrow for the final packing, the end of a long saga of arranging and rearranging gear.

Day 2

Date: Monday 21st May 2012

Location: Resolute Bay, Nunavut, Canada

David Buckley - Long and spectacular day travelling from Ottawa to Resolute. The scenery from the plane window was breath-taking as the landscape changed and our arctic adventure began to take shape. We left the 30°C heat of Ottawa and touched down in Iqaluit to meet up with Johnny in a light snow storm and a temperature of -5°C. The whole team is now together! After a short interview with CBC, we were ushered onto our connecting flight to Resolute Bay, with a brief stop off at Arctic Bay before our arrival in Resolute. At Resolute airport and after collecting our baggage, we loaded up the truck and headed to the PCSP facility in Resolute. The evening was spent exercising some welcome R & R, eating together as a team, chatting and relaxing with the friendly and welcoming staff and meeting other guests.

Day 3

Date: Tuesday 22nd May 2012

Location: Resolute Bay, Nunavut, Canada

Antony Jinman - Today is drawing to a close but the sun isn't going down and it is still very much daylight outside. After 3 days of travelling we are all pretty exhausted and more than a little jet lagged. We've all worked well and extremely hard to get to this point. We've managed to raise the funds, secure the logistics and now found ourselves in Resolute Bay. The last time I was here was back in 2010 and preparing to go to the North Pole. This time I am here with my 6 other team mates and ready to engage with as many students as possible through this educational project.

Since we arrived at our accommodation (Polar Continental Shelf Program) we have been very busy re-arranging kit alongside planning our routes and contingency plans. We've checked and re-checked everything and are now ready to go, so now we wait on the weather. Today we also went to look around Resolute Bay and arrange a visit to the local school. Johnny Issaluk and I are really looking forward to running workshops tomorrow as well as answering any questions whilst away on the expedition via www.eteteachers.org. We also visited the local Coop Shop to see some of the prices of basic food items. It always amazes me just how much things cost in these isolated communities because of the distance things have to travel. It is good to see that



Fig. 6.1. Packing Kit. Source: Arctic Jubilee Expedition 2012.

hunting is still a major part of the community and its identity. Very quickly, Johnny had collected some Caribou and Arctic Char from local people who were quick to talk to us and welcome us to their community. We're all really looking forward to Johnny's cooking during the expedition and a huge thank you must be said to the hospitality of the people of Resolute Bay. We are now all packed and are looking forward to a good night's sleep and hopefully our twin otter flight tomorrow. Three aircrafts have flown out science teams today and the weather is looking good for us tomorrow. Fingers crossed.

Day 4

Date: Wednesday 23rd May 2012

Location: Resolute Bay, Nunavut, Canada

Johnny Issaluk - It's been quite the experience getting ready for our expedition, with a great group of guys, all well laid back with energetic stories. In the last couple of days we've prepared and rechecked our gear and hope for the flights ahead of us to leave to allow us to set off on our journey.

This morning, Antony, Chris, our new found friend Ashley, and I went to the local school in Resolute. Antony presented he's reason for the trek and where he comes from. The students (grades Kindergarten to 7) were astonished and excited to know this and had many questions. I went onto talk with them about the traditional Inuit games I do. Arctic traditional games (Inuit Games) have been around for hundreds of years and were used for survival and a way of cultural identity.



Fig. 6.2. Community Engagement in Resolute Bay. Source: Arctic Jubilee Expedition 2012.

The students were excited about the history of the games, the competitions which are played, and demonstrations I showed them. They were all very keen in trying out the events including a couple of the teachers! We thought it was important to share with the community what we are doing and why. For me it is a reminder of what we have in our land, our traditions, and culture which is all around us.

I am looking forward to the next couple weeks and being able to share this with schools from around the world. Resolute Bay School will be following us on www.eteteachers.org and I look forward to answering their questions via our satellite phone.

Day 5

Date: Thursday 24th May 2012

Location: Resolute Bay, Nunavut, Canada.

Oliver Milroy - Another day has passed in Resolute Bay for us and unfortunately we are still grounded in Resolute Bay. We are on standby basis which means we could be called to fly at any point, however due to a very big low pressure weather front over the North Pole there is a lot of cloud and bad weather over most of the Northern Arctic. Nevertheless, we are using this time to our advantage and have been working with our Inuit team member Johnny to visit local Inuit schools. In these schools we have had the perfect opportunity to learn more about Inuit culture from the students, teachers and also Johnny. Today we took the time to visit the high school here in Resolute Bay, so the students were older than the ones we visited yesterday. The student's absolutely loved having us come along and we were very honoured to be there, the two local police officers even came along to watch Johnny in action. One thing I have learnt today is just the amount of respect the Inuit have for people but also people they see as wise, not only did they greet us with open arms but they all new about Johnny and his work.

After the school visit we took the opportunity to head into town and have a look around again. It is a remarkable place with many differences to our society in the UK. The first thing I noticed from wondering around the town was the similar kindness that I experienced at the school, anyone who walks past ensures they drop you a friendly wave or a kind hello. We were even given a quick tour by a young boy no older than 10! He was telling us about all his favourite meats and was curious about the fact we had never eaten narwhal or seal. Whilst taking a look around town we had the incredible opportunity to speak to some of the elders of the town, which included one lady who had a much unexpected surprise when she pulled out a pipe that washed up on the beach. This pipe wasn't an ordinary pipe as the Inuit lady stated. She believes it is from Franklin's famous expedition, which saw Franklin and all his crew perish. We will never know the true origin of this pipe but it is really is an incredible old artefact.

We finished off the day with us moving out of the Polar Continental shelf base and camping outside; this meant pitching the tents and building our snow defences. We are all excited to have our first night in the tent!

Johnny Issaluk - Awesome day as usual in Resolute Bay despite our lost flight due to weather. As explained by Oli we had a great visit talking to the youth about what Inuit traditions, such as throat singing, drum dancing, and Inuit games I play. These games are a part of who we are today, as these events were played back in the day when we lived in igloos and tents.

Over the winter months despite weather conditions such as blizzards, my ancestors played the games to stay mentally strong and physically healthy. These games were also included in traditional events for celebrations. For example, if other families passed through the village to reach the migratory routes and good fishing areas. We now incorporate these games in celebrations of commemorating times of getting together, which is used to build the essence of living from generation to generation. This part of sharing the games means more to me than the medals I have won in the 20 years of competition. It was done by my ancestors and now I share as much as I can with the youth, teachers, and whoever wants learn about it. Over the course of our journey we will play some games and maybe have the gang do some throat singing.

Day 6

Date: Friday 25th May 2012

Location: Resolute Bay, Nunavut, Canada

David Buckley - Today was spent largely spent on team tasks in preparation of our departure. Due to the delay we are experiencing, Chris and Antony are exploring alternative drop off options from our original plan so that we can stay on track with our objectives. The rest of the team were busy collecting resources that can be utilised as part of our outreach programme. These included; interviews with researchers here at PCSP, checking equipment and organising any replacement or additional items that would useful or needed in the field, preparing articles and blog posts from interviews and our work in Resolute with the community, updating our social media campaign and resting. We are all tired of the delay and very much hope that we are able to leave ASAP. No flights are going out today again so it looks like we will have to try again tomorrow.

Day 7

Date: Saturday 26th May 2012

Location: Resolute Bay, Nunavut, Canada

Thomas Perriment - Following a morning of article writing and repacking, the team were very grateful for The Polar Continental Shelf Program's (PCSP) offer of free rental of skidoos and a trailer for the day! Johnny and Ben drove out with Dave and I on the back, and Oli surfing in the trailer behind. Antony and Chris had to stay behind (to their dismay!) to finish off new route planning due to the huge low pressure system affecting our flight out!

We went 13km from the PCSP base out onto the sea ice looking for seal and polar bears, the team's first time standing on the Arctic Ocean (excluding Johnny of course!).

On the way out Johnny took us to a monument dedicated to the people that were relocated to Resolute and Grise Fiord between 1953 and 1955. This

monument, situated on the shoreline, was erected by Johnny himself and a local Inuit elder (Ali). Ali was one of the original people that moved here when he was only 3 years old. The monument honours and remembers the Inuit communities and the hardships they endured when they were forcibly moved from northern Quebec, a land with vast forests and an abundance of wildlife to the desolate shores of Resolute Bay. In this harsh environment of snow, ice and gravel very little grows therefore many of the Inuit moved here died over the cruel winters.

After a moment of reflection, Johnny showed us old Thule sites, specifically a whale bone hut built some 600 years ago by the Inuit communities who settled here (they arrived however between 1300 and 1500 AD during the medieval warm period when the lands were rich with caribou and hares). We then travelled down onto the sea ice for Johnny to take us hunting. We spotted four ring seals sunning themselves in the distance, and were 150 yards or so from them when they saw us and dropped back into the ocean through their seal hole (which they make by scratching through the ice from below with the super strong claws on their hands). We set up for lunch around the seal hole hoping they would come back up, but alas, we were so loud we scared them off; however, when Ben and I went for a quick ride after lunch we spotted the same two seals when they resurfaced at a different hole, expert trackers and we didn't even know it!



Fig. 6.3. Team Photo at PCSP. Source: Arctic Jubilee Expedition 2012.

Following lunch we travelled further out over ridges of pack ice and Johnny's keen eye noticed another seal (an old, but large one) doing its thing solo at another hole. We snuck up behind the ridge whilst the others hung back for fear of the noise of 5 "less than dainty" chaps crunching through the snow! One single, clean shot later and we were running over to see the seal up close. Johnny expertly skinned and gutted the seal, wrapping the edible offal and meat in the skin creating a bag by weaving a spare line of rope around the edges and pulling tight! Johnny was kind enough to let us try some of the seal there and then: we all tried artery and intestine, Dave and I tried the brain, but Ben was quickly warned off by Dave, who appreciated the gesture but not so much the texture, Oli was clever enough to avoid it completely.

The team took it in turns to keep an eye out for polar bears and after a few hours of exploring the sea ice and searching for more wildlife to observe, we turned around and headed back to Resolute, the small hamlet where Ali lives. We rode to Ali's house to give the seal skin and meat as a gift, and in return he invited us into his home and gave incredible insights into Inuit life and the history of the area. Throughout the whole day Johnny had been teaching us about Inuit life, the odd few words in Inuktitut (the Inuit language), and how/why the seal must be skinned and prepared the way he did it. The skin will be made into clothing to keep warm in the freezing conditions, and none of the meat will go to waste either! A seal that large could easily feed three households.

We rode back to the PCSP base with myself in the trailer (Oli deserved a break!) so I spent the last few kilometres shielding myself from the ice chunks being kicked up by the skidoo pulling me, and attempting to undo my frozen boot laces! The whole team had an incredible day, one that we will certainly never forget. We are very thankful to Johnny for teaching us so much, to PCSP for allowing us to take out the skidoos, and to Ali for telling us about the history of the area. Such an amazing opportunity for all of us to be involved with and we all feel incredibly privileged and humbled by the experience.

Day 8

Date: Sunday 27th May 2012

Location: Resolute Bay, Nunavut, Canada.

Oliver Milroy - The weather is still causing us problems with all flights continuing to be grounded; this has meant we are still based in the Polar Continental Shelf Program base just outside Resolute. There is such a thing as cabin fever that is continuously being joked about here; however we haven't even had chance to stop, let alone go mad. There is so much on offer not only at the base but also in the local community. We have a big advantage with Johnny being on our team as he has taken it

upon himself to pass down the knowledge he has to us. Today was another day of us learning another unique skill from Johnny. This entry is about our trip ice fishing today however I wanted to start by talking a little bit about the community at the base we are staying at.

Dave and I were lucky enough to have a chance to talk to one of the pilots about exactly what he does and why he does it. This interview came about when we met a pilot in the canteen here called Rhys and he began asking us lots of different questions about Plymouth as it is the hometown of his father. He was incredibly knowledgeable on not only Plymouth but also the Arctic region where he has flown for the last 10 years. We decided that it would be brilliant to have a pilot's perspective as they undoubtedly get some of the best views of this amazing region. Rhys was quick to agree to this statement by highlighting the most incredible thing he has seen in his flying career was the mountains in some of the parks up here.



Fig. 6.4. Ice Fishing. Source: Arctic Jubilee Expedition 2012.

Rhys began his career in the RAF and soon left to join the commercial world. He eventually ended up flying in the Arctic which meant completely changing his life from Kent to adapt to this region, but by the sound of it he certainly wouldn't have it any other way. Rhys was a very interesting person to speak to and offered some good advice on how to become a pilot - consisting of a lot of studying, getting qualifications and following what you love to do. Hopefully we will be seeing Rhys again soon, however we hope it will be in a plane!

Today we had another brilliant day which consisted of heading out to a local lake called three mile lake in order to try our hand at ice hole fishing, which is the traditional way of catching fish. This traditional technique has had a western twist added to it now in the fact all the equipment is now mechanised but to be perfectly honest I understand why this is. I certainly would not want to be digging a hole that deep by hand! Overall the days fishing was a very good experience and we even managed to get ourselves a little tiddler of a fish. By keeping active and learning all these new skills we certainly haven't had time to stop and think but I wouldn't have it any different.

Day 9

Date: Monday 28th May 2012

Location: Resolute Bay, Nunavut, Canada

Antony Jinman - It is Monday the 28th May and we have been in Resolute Bay now for 7 days awaiting the go ahead by Polar Continental Shelf Program to fly us up to Lake Hazen. Unfortunately for the expedition the weather has not been great further north, with low pressure, dense cloud cover and strong winds. During the delay we have spent time training and getting to know the local community area and around Resolute Bay. In many ways, this could have been a frustrating time as



Fig. 6.5. Base Camp on the Grant Land Ice Cap. Source: Arctic Jubilee Expedition 2012.

we are all very keen to get on to the ice and start what we came here to do. However, this journey has already begun. It started just 4 months ago when I put the idea of this project to the potential team and started the process of putting the logistics of the project together. We managed to secure the backing and funding which is never an easy thing, then suddenly, we were getting into a taxi, kissing our loved ones good bye and starting our journey to Heathrow, then on to Ottawa and finally Resolute Bay.

Tomorrow, we hope to leave Resolute and fly up to the British Empire Mountain Range, part of the Queen Elizabeth Islands and start the expedition phase. I have the pleasure to write tonight's entry and say how proud I am of the team, the hard work and commitment it has taken to get to this point. It has been far from easy and this past week has only been an additional challenge to overcome. I say a challenge but in many ways it has been an unexpected benefit to the project. The people of Resolute Bay have welcomed us with open arms and it has been a pleasure to further learn about the history of the community and expand our knowledge of Inuit culture and tradition. I have learnt above all else that despite the tragic beginnings of this community there is such strength within the community and that through storytelling and exchange we can learn from each other's cultures and see that we are all global citizens. That strength of community here in Resolute Bay is something we can all learn from.

The time spent here at the Polar Continental Shelf Program (PCSP) has been an equally rewarding experience as we have been able to talk directly to the science teams awaiting the flight north. The

research being conducted through these programs we have been able to share with you through our blogs. The dedication from these scientists to their field of research is incredible as they have been leading these fieldwork projects for many years aiding the understanding of the Arctic environment. The PCSP facility here is nothing short of 5 stars. The staffs have been very accommodating in our delay with great service and interest in our project. The kitchen staff has had an especially hard time catering for everyone whilst producing such amazing and diverse dishes here in the remote high Arctic. This really is a world class place of research which is critical in helping support the science teams here at the cutting edge of their disciplines. The last time I was here in 2010, I was about to depart to Cape Discovery and start an expedition to the Geographic North Pole collecting scientific samples for Plymouth University. As I flew over Ellesmere Island, I hadn't expected to be returning. Hopefully tomorrow, weather permitting, I will be returning to a short distance from Cape Discovery to start the Arctic Jubilee, celebrating the Diamond Jubilee and through education and our online platform, connect cultures and understanding of the Arctic within schools.

Day 10

Date: Tuesday 29th May 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley - We have finally left Resolute! After an inevitably frantic morning at PCSP we were ushered on to the twin otter to complete the remaining legs of our journey to touching down on Ellesmere Island. I can definitely say that the mood in camp this evening is jubilant and happy, if not only to be free from the delays we have endured over the last week.



Fig. 6.6. View from Camp 1. Source: Arctic Jubilee Expedition 2012.

Our flight departed at roughly 10am and we were treated to wonderful views of the High Arctic. Our flight path took us over Cornwallis Island, Axel Heidelberg Island and finally onto Ellesmere Island. The journey initially resembled the landscape familiar to us from our stay at Resolute, with small rolling hills and views of the Arctic Ocean frozen by the cold weather. However, this gave way to the panoramic mountain scenery of Axel Heidelberg Island. After a brief stop in

Eureka to refuel, we were soon flying over Ellesmere and the pilots were scouting a place to land. Our landing was smooth and impressive, firstly touching down to test the conditions of the ice cap and then second time round we safely landed. As the first group into this area this season the pilots were careful and cautious in the approach to our access. They did an amazing job and the landing was certainly an exhilarating experience!

After waving off the aircraft we were left alone with only ourselves for company. The sun was shining and mood positive as we busily made preparations for camp. Firstly checking and choosing a suitable location to camp and avoiding any crevasses. This camp is to be our base camp for the next few days for our summit attempt on Barbeau Peak and Mt. Whistler. Subsequently we have prepared it extensively with a large snow wall encircling both tents and the construction of washroom facilities to accompany our fort. The weather is reported to be good for the next few days and we are keeping our fingers crossed for some real progress. However with the weather we have experienced so far, anything can happen! Nevertheless, we are settling down for a good night sleep bathed in the Arctic sunlight and looking forward to tomorrow.

Day 11

Date: Wednesday 30th May 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley – Today was the first day on our skis and we travelled approximately 6km from base camp before finding a suitable position in erect an advanced camp underneath the north ridge of Barbeau Peak. The camp is ideally situated with the summit of Barbeau hovering in the clouds above us and as we had good weather and with word from Resolute that bad weather is approaching, we spent the afternoon constructing our tea party. We dined on the tea, scones and jam we have brought with us all the way from the UK, whilst preparing the video to be sent as our loyal greeting to the queen and the media. Other things we have done today include preparing camp, blogs and content for our education and outreach campaign.

Oliver Milroy - Today was a very good day with the team getting on their skis and covering some good ground towards our ultimate goal of Mount Barbeau. We experienced a wide range of terrains all the way from flat fresh snow to knee high sastrugi that required us to weave our way through. However it all was worth it as we are now camped at the bottom of Mount Barbeau meaning the summit is in our sights, quite literally.

After taking an executive decision, we have cached some of our load at our original camp taking only a few days food and our essential equipment for the next few days to reduce any unnecessary weight. Team morale is high as we are now so close to achieving our ultimate goal. It has taken a lot of work to get to where we are, and now we are here it is truly remarkable. I have learnt a lot about travelling in the Arctic today with the main lesson being wear plenty of sun cream! Due the 24 hours of sunlight here, I can see that getting sun burnt could be a big issue.

Day 12

Date: Thursday 31st May 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

Antony Jinman - We awoke after a terrible night's sleep. The wind had risen in the early hours and despite the defence of our head high snow wall, protecting the tents, they still shook with the wind. After breakfast the wind had dropped and we decided to make a bid for the summit of Mount Barbeau (our objective). We set off with our expedition rucksacks, ropes, crevasse gear, stoves, crampons, skis and spare clothing.

We easily reached the start of the North Ridge and exchanged skis for crampons, ready for our ascent. Our plan was to follow the North ridge over a distance of about 6km. Progress was steady as we climbed into the cloud line with the sun occasionally breaking through rewarding us with breath taking views of the British Empire mountain range.

Just before lunch we found that the ridge had become very narrow with icy drops to either side, plummeting down to the glaciers below. What became a knife edge ridge was one of the highlights of the day, as we carefully made our way. The last half a kilometre opened up to a rocky section which rose sharply to a final icy steep section. Suddenly we were on the final ridge with only a 50 metre walk to the summit. We made it.

We have successfully climbed Mount Barbeau, the highest point of the Queen Elizabeth Islands. Despite the short notice for this project, the fundraising, training and lately the weather delays on our flights, we have done it! I am so proud of our team as they have worked so hard to get to where we are now and we currently think that, at 19, Oli is the youngest person in history to climb this peak. Additionally we believe that only around 50 people have ever stepped on that point, making us all extremely proud.

The expedition is far from over and it has only just begun. This first summit was achieved in time for HM Queen Elizabeth Diamond Jubilee. We are currently busy now readying our loyal greeting for the

weekend's festivities. We still have an action packed few weeks ahead, including following up our 'World's most remote tea party' exploring the surrounding peaks and our outreach work on the



Fig. 6.7. Navigating Our Way Down the North Ridge of Barbeau Peak After Reaching the Summit. Source: Arctic Jubilee Expedition 2012.

Arctic for our international schools.

Today's question by South Hampstead High School was in connection with Resolute Bay and how the community and school compare to the UK.

Oliver Milroy - Today was amazing, after working so hard to get here it was an incredible experience to finally be on the top of Mount Barbeau. We wouldn't be here if it wasn't for all our sponsors, supporters, family and friends for believing in us and this

project, so a special thank you to all of those people. After achieving our aim and reaching the summit, it was an added honour to find out that I may be the youngest person ever to summit the peak, what an honour which I hope to inspire other young people to follow what they believe in and goal set in order to achieve their dreams.

Day 13

Date: Friday 1st June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

Johnny Issaluk - Today, has reminded me of what life offers, in a simplistic sense. I've seen the horizon, on the ice cap of Queen Elizabeth Islands, clouds hovered below us in the mountains mist, skies blue crisp, age old ice bevelling between explicit ridges of mountains that reach the earth's atmosphere which we only see with our eyes. It was a great day with the team that I am so blessed to have met and experienced the day with, today will always be a reminder of many moments in my life so far.

In the morning we skied from Camp 1 to Base camp then stopped for lunch and prepared the loyal greeting to be sent to Queen Elizabeth and the media. Afterwards we skied roughly another 7 kilometres from base camp to Camp 2. We had started off from 4600 feet above sea level to make camp at 7400 feet. We aim to summit Mount Whistler tomorrow, which is recorded as the second highest mountain on these islands. Other highlights of the day included breaking a couple of skies

and avoiding crevasses, however our ingenuity prevailed and after an adventurous day we've reached our destination.

It has been a great trip so far and today was another amazing day. I really look forward to what tomorrow brings, but I'm going to start my plan with saying I have done everything I could today, to do the best that I am!

Day 14

Date: Saturday 2nd June 2012

Location: Grant Land Ice Cap,
Ellesmere Island, Nunavut, Canada

Thomas Perriment - Today was the day we had planned to climb Mount Whistler, however due to the peak itself being shrouded in thick cloud we used the opportunity to practice crevasse



Fig. 6.8. Exploring a Crevasse near Camp 2. Source: Arctic Jubilee Expedition 2012.

rescue. Just short of where we made camp yesterday is a deep crevasse, a laterally extensive crack in the ice formed due to different ice-flow speeds at steep gradients or changes in slope profile.

As Dave had yet to try out his climbing axes, and we have the brilliant Chris Atkinson with us - a guru of all things climbing/mountaineering related -the team took no persuasion at all when the suggestion of exploring a crevasse was made. We quickly set up a series of anchors to abseil from and jumped into our harnesses.

Johnny was the first down, eager as always, and with a smile from ear to ear started the descent into the blue-black abyss below. The rest of the team were snapping at his heels to be the next one in, so Chris set up an extra rope whilst Johnny pulled himself up using a three to one system; once his head popped up out of the crevasse, Dave and I jumped onto the lines and began preparation to go down ourselves, followed later on by Ben and Oli who were equally as eager to descend into the freezing crack in the glacier.

The crevasse was on one side covered in powder, falling from the snow roof above, the other adorned by ice-crystal chandeliers and trees branching out to form ice bridges between the gap; an enchanting world, strangely similar to Jorel's fortress from Superman (the early years). Dave and Antony both climbed the ice wall just with crampons and ice axes, with Chris providing rope support from above to make sure in the event that they slipped he would catch them, fortunately they both

made it out with all limbs attached, hoorah! We ended the day by deciding that our tea party and toast would be the best way by far to celebrate HM Queen's Diamond Jubilee. We are extremely proud to be sending a Loyal Greeting to the Queen from the Queen Elizabeth Islands in the Canadian High-Arctic today. Other highlights from the day also include some incredible pictures which I am very much looking forward to sharing with my family, housemates, and Amber.

Day 15

Date: Sunday 3rd June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley - Overnight the weather had improved for us to go for the summit of Mt. Whistler via the north ridge which we believe is a first ascent. The ridge was an enjoyable route continuing to get steeper and steeper as the summit approached. Topping out gave us our first view of the southern side of the British Empire Range with the Henrietta Nesbitt Glacier unfolding beneath us. I spent some time trying to spot Lake Hazen glistening in the distance and enjoyed seeing the view that was so badly obstructed by the poor weather we had experienced on the summit of Barbeau. After some photos in the sunshine and general team merriment, we descended to the col on the west side and continued our horse shoe descent back to camp. During the descent, AJ took a detour to traverse the ridge of the range to the adjacent summit to the west of Whistler (Fourth Peak East Sub-peak B). The broad smile on his return demonstrated his clear enjoyment of being perhaps the only person to have stepped foot on the summit as we have not found a recorded ascent of this peak.

Day 16

Date: Monday 4th June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley – In the morning we struck camp and skied down the lower reaches of Mt. Whistler to re-join the ice cap. We



Fig. 6.9. Summit of Mt. Whistler. Source: Arctic Jubilee Expedition 2012.

continued to ski west in fog shrouding our view of the British Empire range with the intention of establishing another camp back in the direction of Mt. Barbeau. The camp is to serve as another base to attempt the summits of two more unnamed peaks, as after careful deliberation regarding

the length of our weather window, the team has concluded that greater achievements can be made from a new aim to summit all of the peaks of the British Empire Range between Mt. Whistler and Barbeau as opposed to beginning our trek to a pick up at Lake Hazen. This exit is still on the cards but we are at the disposal of the weather and must remain flexible in mind of its definite unpredictability!

In the afternoon, after locating a suitable camp spot for the evening and caching some the



Fig. 6.10. Camp on the Grant Land Ice Cap. Source: Arctic Jubilee Expedition 2012.

equipment not a needed on our ascent, the cloud cleared enough to make the successful summit of two further unnamed peaks (Fourth Peak East and sub-peak A). For our ascents, we split into two teams with Antony and Tom heading up the north ridge of a closer sub-peak with intentions of them meeting up with the rest of the party at the adjoining col to attack the main summit. Antony and Tom summited and found a cairn, much to their dismay!

The descent to the col and our meeting place took them more time than initially planned so it was decided that the rest of the team should continue to make a bid for the main summit. Johnny and I summited together closely followed by Chris and Ben. Johnny was adamant that he wanted to call this peak “life’s” peak, however, Ben wasn’t so sure on the suggestion. The view was excellent and the descent was uneventful apart from the all too familiar difficulty of skiing downhill on our skis.

Benjamin Shearn - Like an extreme reality show, putting seven individuals together in a confined and hostile environment has allowed characters to develop and personalities to shine. Tom forever the quintessential English gent, Johnny entertaining us with stories of hunting, Chris relaying epic climbing antics throughout the world, Ollie has pretty awful blisters he’s battling on without a moan or whimper and keeping up with the team so admirably, Anthony inspiring us with North pole renditions and the ever calming Dave with his make shift ear flaps taped to his hat to protect from the sun.

Today we decided to take on an accent of another un-named and never before climbed mountain, we took inspiration from the famous mountaineers Lewis and Clark and set off upwards at about 1500hrs on the telemark off piste skis courtesy of the fabulous royal marines with skins attached to

assist with uphill ascents. At about 1700hrs we reached a col and cached our skis and rucksacks in some rocks, attached crampons and continued upwards on the now very hard ice.

I could not see the summit for the clouds and as I plodded on step after step ensuring both crampons and poles were safely positioned and having suitable purchase with every step. I then watched as Dave and Johnny disappeared into the clouds

ahead of me and with a wave I followed into the cloud too. Anyone who has ever looked out a plane and wondered what it must be like to be in amongst the clouds would be have loved the sight before me, it went gradually quieter and the sun got brighter, you could look directly at it with rainbows running 360 degrees around it as if magically drawing you higher. I continued on stopping for breath as the cloud became thinner until eventually we had had broken through it and a magical vista spread out before us like nothing I've ever seen or imagined. The mountains ran for hundreds of miles in every direction and the clouds lay at the feet of the mountains adding to the majestic setting that any Hollywood special effects designer would be in awe of.

I saw Dave and Johnny summit and I joined them shortly after with a hug and cheers of true jubilation. Soon Chris and Ollie so joined us and we took photos, built a cairn and took time to reflect on what we had achieved and where we were. I for one was very humbled by the scale of this achievement and the view that rolled out before me and thoughts quickly turned to my family and loved ones at home, I hope I will never forget the incredible feeling I had today.

We headed back down talking of possible names for this mountain if we were successful in naming it, and as we collected our packs at the col and reattached skis for the final descent we decided very quickly that the skis were not so great on downhill!!!

Day 17

Date: Tuesday 5th June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada



Fig. 6.11. Climbing in the British Empire Range. Source: Arctic Jubilee Expedition 2012.

David Buckley - Bad weather over night has meant that our reinforced camp has sustained damage from high winds and a fresh snowfall. The conditions in the morning did not improve and it was decided that we would take a rest day to wait out the bad weather. During the day we discussed our options regarding our pick up date. In mind of information we have received suggesting that bad weather is approaching and our desired leaving date of the 11th coming around relatively quickly, we have decided as a team that we should be picked up after our remaining target summits of the range have been climbed. This leaves us open to be potentially picked up as early as the 8th with plenty of time for a later collection up until the 11th. We feel this plan allows us to be flexible with the weather and the progress that we make over the next few days, especially considering the delays we have already encountered at the beginning of the trip. The afternoon was spent preparing an igloo with Johnny (which Ben and Tom have chosen to sleep in) and working on material for the education and outreach programme.

Day 18

Date: Wednesday 6th June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley - In terms of summits, today has been our most successful day of the expedition. In the morning we relocated our camp into a central position of our remaining target peaks. We skied approximately 5 kilometres and stopped to erect camp at lunchtime. After some food and an hours rest, Ben decided he would like to stay and prepare camp for the afternoon. The rest of the team left camp and we made our way up towards the western col of the third peak east of Barbeau. Upon reaching the col and popping out of the clouds, we changed our skis for crampons and split into two teams. Team A (AJ, Oli and Johnny) went for the summit of the second peak east of Barbeau via its sub peak and team B (Chris, Dave and Tom) went for the summit of third peak east.

In my opinion, this was the best route we have climbed so far with a good knife edge ridge to the summit. I slipped just before the ridge which added to the experience and kept me concentrating for the rest of the day! On our descent we met up with team A which had reached the sub peak of second peak east but had been prevented from reaching the eastern ridge to the summit by a large crevasse. Team A continued up to summit third peak east as we had.

Once back on the col Tom, Johnny and Oli decided to join Ben back at camp. Chris, AJ and I continued on to climb the second peak east of Barbeau by its north ridge and then traverse from the summit across to summit the first peak east of Barbeau as well. Interestingly, our GPS reading

showed this peak to be higher than Barbeau. After a long day we arrived back in camp at roughly midnight, tired but having had one of the best days of the trip so far.

Day 19

Date: Thursday 7th June 2012

Location: Grant Land Ice Cap, Ellesmere Island, Nunavut, Canada

David Buckley - After our long day yesterday we had a later get up than usual. We played cards for the morning then headed back to base camp to get more food and find out what the weather is doing. Moral is high as we have achieved our objective of climbing all the peaks between Mt. Barbeau and Mt. Whistler. We shall see what PCSP say if we are not getting picked up tomorrow we will be organising a new objective for the next few days.

Day 20

Date: Friday 8th June 2012

Location: Resolute Bay, Nunavut, Canada

David Buckley - This morning we woke and contacted PCSP to ascertain whether they would be flying to pick us up today. After hearing that they were a go and that they would shortly be in the air, the message was passed around camp to prepare for departure. Camp was struck in between eating, drinking tea and chatting. AJ was the first to spot the twin otter come into sight on the horizon, his trained eyes seeing it well before anyone else! For the rest of the day during the flight back to Resolute, I spent contemplating this magical place, admiring the view from the window of the twin otter and feeling proud of all that we had achieved. After a short stop in Eureka and a brief chat with some of the staff based there, we boarded once again for our leg to Resolute. We arrived in Resolute just in time for a welcome scrub down and evening meal at PCSP.

Day 21

Date: Saturday 9th June 2012

Location: Resolute Bay, Nunavut, Canada

David Buckley - After a very successful expedition, we spent the morning organising our kit for the first leg of our return journey to the UK, Iqaluit and Squamish respectively. Spirits are high and we are all very proud of the achievement of the team. After our flight from Resolute to Iqaluit we had some celebratory drinks with the team and Johnny's wife Michelle at the Frobisher Inn. I really

enjoyed this evening in Iqaluit and look forward to finding out more about it tomorrow. I feel really grateful to Johnny, Michelle and others in Iqaluit for their generous hospitality and letting us stay with them; especially Johnny for providing us with a change of shirt after two weeks in the field!

Day 22

Date: Sunday 10th June 2012

Location: Iqaluit, Nunavut, Canada

David Buckley – This morning was spent changing our scheduled flights from our original itinerary. Our flight to Ottawa does not leave until tomorrow morning. Today we spent exploring Iqaluit with visits to the museum, souvenir purchasing at local shops and a demonstration of Johnny's rifle skills at the local range. In the evening we had a meal at the Frobisher Inn and retired early to ensure plenty of rest for the next leg of our journey to Ottawa tomorrow. This was a particularly valuable day for the younger members of the team who had not visited Iqaluit before, providing further insight into the diverse communities of the Arctic.

Day 23

Date: Monday 11th June 2012

Location: Ottawa, Ontario, Canada

David Buckley - On arrival in Ottawa further arrangements for our return flights to the UK were made. We have arranged a flight leaving from Ottawa tomorrow afternoon, arriving in London on Wednesday morning. After saying goodbye to Johnny and Michelle at the airport in Iqaluit this morning, we have just bid farewell to Chris on his return home as well. I look forward to seeing them again soon. The 5 of us from the UK will overnight in Ottawa and wait for our flight tomorrow. On a personal note, the project has been a real privilege to be involved with and the friendships I have made during the trip have been remarkable. I would like to thank all of the team and its supporters for their hard work, passion and support.

Day 24

Date: Tuesday 12th June 2012

Location: Ottawa, Ontario, Canada

David Buckley - The final leg of our journey has begun as we leave Ottawa and head home to the UK. The team is looking forward to meeting up with family and friends and continuing our work in the

next phase of the expedition by sharing our achievements and providing feedback for our supporters and sponsors. The flight is comfortable and I wonder what the weather will be like in London tomorrow morning.

Day 25

Date: Wednesday 13th June 2012

Location: Plymouth, Devon, UK

Diary Entry

Antony Jinman - A very successful expedition indeed, everything we set out to achieve we have accomplished and we are all over the moon. We have all learnt so much about ourselves and the Arctic, and can't wait to share it with everyone soon through our educational work. 9 Summits have been reached, including Barbeau (2616m), Whistler (last climbed in 1982), 7 un-named of which 4 we believe are first ascents.

7. CONCLUDING REMARKS

In conclusion the Arctic Jubilee Expedition 2012 has been a resounding success in achieving its diverse range of objectives. The expedition achieved its aim of climbing Barbeau Peak making what we believe to be the 5-9th ascent via the north ridge (2616m). In addition to this accomplishment, a further 8 summits were reached including a possible first ascent of the north ridge of Mt. Whistler (last climbed in 1982) and 7 un-named peaks. Our education and outreach programme has helped to promote global citizenship through connecting remote and isolated communities in the Canadian high Arctic with school children in the UK. The expedition has been prominent in aiding the creation of a number of comprehensive resources which can be utilised in supplement to the National Curriculum, helping to inspire and encourage students at a range of age levels about the Arctic environment and wider environmental issues such as those encapsulated by discussions surrounding climate change and sustainability.

The expedition was also greatly successful in providing unique and challenging career development opportunities to young people in supplement to their degrees at Plymouth University and personal professional development aspirations. The expedition raised the profile of the Arctic through generating a strong following utilising both mainstream and social media campaigns resulting in widespread interest in the expedition and its objectives. This achievement is best captured by the broad array of well-regarded national and international publications which covered the expedition as well as the high level of 'noise' that was created within social media channels. In addition to creating a high profile, the expedition rose over £4800 for its chosen charity Jeremiahs Journey, and received noteworthy acknowledgement by being awarded to carry the Explorer's Club flag as well as recognition from the Royal Household through patronage from HRH The Prince of Wales and a loyal greeting to HM Queen Elizabeth II.

Within these victories for the expedition, perhaps the greatest and overriding achievement was the incredibly short time frame in which the project was both planned and executed. The preparation phase took only four months before departure which was an incredible challenge considering the magnitude and diversity of hurdles that were needed to order coordinate the project. This was only achieved through dogged dedication, strong teamwork, resilient optimism and in parts; good fortune. The difficulties of organising an expedition to this region are varied and numerous due to the remote location and a high financial cost of accessing Ellesmere Island. In addition, further notable difficulties that affected the expedition included the long weather delay that was encountered in Resolute Bay which was severely disruptive. In response to the interruption,

successful alternative options diverting from our initial plan in the field were created to ensure that our objectives were completed in spite of any interferences.

Nevertheless despite being delayed, once on location the British Empire Range and its vicinity is nothing short of stunning with what appears to be a wealth of opportunities for mountaineers, scientists and nature lovers alike. The region is rarely visited and many of its mysteries have yet to be revealed. In terms of mountaineering, opportunities seem to be almost endless as very little exploration of these remote ranges has occurred. This means that many lines and peaks have yet to be discovered, offering a unique climbing experience in an awe inspiring location with a variety of climbing styles available to choose from. Additionally, further exploration of the area and a deeper survey of previous expeditions and their experiences would be beneficial. This work would make steps towards creating a more detailed picture in which the experiences and assertions of this expedition can sit and help to build a strong footing regarding the history, geography, culture and past mountaineering achievements in the region.

8. ACKNOWLEDGEMENTS

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9. APPENDICES

9.1. Inventory of stores and equipment

9.1.1. Team Equipment

- 4 person mountain tent and accessories (x2) e.g. Hilleburg
- Stove (x2)
- Stove Repair Kit
- GPS (x2)
- 50m/60m Ropes (x2)
- Light weight emergency team shelter
- Small repair kit e.g. multi-tool, duct tape, webbing strap, wire, spare crampon strap, sewing equipment, spare ski binding straps
- Full First aid kit
- Sponsors/test equipment
- Snow saw (x3)

9.1.2. Communications equipment

- EPIRB
- SPOT satellite tracker
- Iridium OpenPort
- Laptop
- Batteries
- Solar Panel Battery charger
- Iridium Satellite Phones (x2) with USB connecting cables + accessories to charge.

9.1.3. Personal Clothing

- Hat - Warm e.g. polartec
- Sun hat
- Balaclava
- Neck gaiter
- Wicking underwear e.g. merino wool, polypropylene
- Wicking t-shirt base layer e.g. merino wool, polypropylene
- Mid layer e.g. polartec
- Softshell
- Waterproof jacket e.g. goretex, e-vent
- Waterproof trousers e.g. goretex, e-vent
- Wicking base layer trousers e.g. merino wool, polypropylene
- Softshell trousers
- Expedition fleece trousers (Next to skin/ mid layer) e.g. polartec
- Wicking lining socks e.g. merino wool, synthetic (x2)
- Outer socks e.g. merino wool or synthetic (x3)

- Lightweight liner gloves e.g. polartec
- Water proof outer gloves e.g. goretex, e-vent

9.1.4. Personal Technical Equipment

- 4 season waterproof boots e.g. B1, B2, goretex
- Crampons e.g. C1, C2
- Mountaineering Axe
- Harness
- Personal crevasse rescue kit e.g. prusik cord, karabiners, pulley, slings etc.
- Spare Screw gate karabiners
- Sleeping bag – e.g. down comfort minus 20
- Waterproof Overbag
- Stuff sack e.g. to compress sleeping bag
- Thermarest (full length)
- Karrimat
- Dry bags (multiple to separate luggage)
- Backpack e.g. 65l +
- Waterproof backpack cover
- Trekking poles
- Water proof Gaiters e.g. goretex, e-vent
- Skis
- Trace
- Polk
- Polk cover/bag

10.1.5. Personal Equipment

- Water bottle e.g. 1l nalgene (x2)
- Small towel e.g. microfiber
- Swiss Army Knife
- Sunglasses e.g. 100% UV, polarized
- Goggles
- Head torch
- First aid kit
- Sun cream
- Wet wipes
- Toiletries
- Large insulated mug
- Ear plugs
- Eye shades
- Tent booties
- Crockery
- Cutlery
- Altimeter watch e.g. suunto

- Diary
- Misc. Personal e.g. ipod, cards etc.

9.1.5. Medical Supplies

Table 9.1. Medication Included in Group Medical Kit

Complaint	Name	Amount	Doses	Indication
Infection	Chloramphenicol 1% ointment	2	Apply QDS 3-5 days	Eye infection
	Aciclovir 5% cream 10g	2	Apply 5x 5-10 days	Cold sore
Analgesia	Aspirin 300mg tablets	32	1-3 QDS	Pain
	Paracetamol 500mg tablets	300	2 QDS	Pain, Pyrexia
	Ibuprofen 400mg tablets	252	1-2 QDS	Pain, FCI
	Co-codamol 30/500 tablets	100	1-2 QDS	Moderate pain
GI	Dioralyte sachets blackcurrant	20	TDS as required	D&V
	Ranitidine 150mg tablets	60	BD	Reflux, anaphylaxis
	Gaviscon advance Tablets	60	1-2 QDS	Reflux
	Senna 7.5mg tablets	60	ON	Constipation
	Loperamide 2mg tablets	30	2 stat then 1 after motion	Diarrhoea
	Anusol HC 30g ointment	1	BD for 7 days	Haemorrhoids
Skin	Aloe vera ointment	2	TDS as required	FCI, sun burn
ENT and Eye	Dequadin throat lozenges	60	QDS as required	Sore throat
	Pseudoephedrine 60mg tablets	24	TDS as required	Decongestant
Dental	Clove oil	1	1 drop as required	Dental pain
	Choline salicylate 15g dental gel 8.7%	1	TDS 3-5 days	Mouth ulcers
Emergency	Cinnarizine 15mg tablets	84	2 two hours before travel then 1 TDS	Nausea & vomiting, anaphylaxis
	Glucogel 20g	1	As required	Hypoglycaemia
Wound Care	Betadine spray	1	As required	Clean wounds

Table 9.2. Non-Medication Items Included in Group Medical Kit

Name	Amount
0.9% saline 10ml sachets	10
Blizzard heat pack	2
Cling film roll (cut into 1/3rds)	1
Compeed medium	10
Corsodyl mouthwash	1
Crepe bandages assorted	5
Emergency care bandage	3
Gauze 10cm x 10cm	5
Mepore dressings assorted	5
Needles assorted	15
Nitrile gloves large	20 pairs
Scalpel	2
Sharps bin small	1

Steristrips various	6
Syringe 10ml	3
Triangular bandage	2
Tuffcut scissors	1
Zinc oxide tape 2.5cm	2
Zinc oxide tape 5cm	2

9.2. Barbeau Peak and Mt. Whistler Ascent History

Table. 9.3. Barbeau Peak Ascent History

Expedition Number #	Expedition	Ascent	Number of People #	Route	Climber	Journals
1	1967 RAF	1	5	North Ridge-FA	Dicky Bird	AAJ 1969
		2	9	South Ridge-FA	Trevor Mann Mike Shannon Brian Keegan Keith Arnold Geoffrey Hattersley-Smith Bruce Reid Uwe Embacher Bob Lewis	
2	1982 Canadian	3	13	North Face-FA	Allan Errington	AAJ1983
		4	15		Brad Albro Rick Piercy Bill Robinson Steve Trafton Jim Shadd	
		5	17	West Ridge-FA	John Petrie Paul Williams	
3	1992 Australian	6	19	South Ridge	Eric Phillips Nick Fairfax	
		7	20	W/N Ridge ?	Dr Richard Smith	
4	1996 Graber			n/a	David Graber	
5	1998 US/ Canadian	8	23	North Ridge	Greg Slayden	AAJ 1999
		9	27	North Ridge	Tony Daffern Pete Ford	
		10	28	North Ridge	Jack Bennett Dan Bennett William Slayden David Rotherse Tom Budlong	

6	2000 Canadian	9	29	?	Jerry Kobalenko	
7	2002 Guided	10	33	NE Ridge- FA	Matti McNair Paul Crowley Ben Ellis Emily Edwards Robert Kimsley Peter Roberts Paolo Gardino	
			37		Elizabeth VanEyken	
			38		Fernand Noel	
8	2002 US Ski/SB	11	41	West approach	Jones Cabilies (SB) Pete Dronkers (Ski) Blue Eisele (Ski)	Guardian 2003
9	2008 Landry	12	42	?	Paul Landry	
10	2010 Exped	13	46	From south	Jack Bennett Tom Bennett Billie Butterfield Sue Richmond Mitch Sheldon Dave Green Rich McAdams Donna Calhoun	
			50			
11	Wardens ?	14	~54	?	?	
12	Wardens ?	15	~58	?	?	
13	Wardens ?	16	~62	?	?	
14	2012 Jubilee	17	~69	North Ridge	Antony Jinman Chris Atkinson David Buckley Ben Shearn Johnny Issaluk Tom Perriment Oliver Milroy	

Table 9.4. Mt. Whistler Ascent History

Expedition Number #	Expedition	Ascent	Number of People #	Route	Climber	Journals
1	1967 RAF	1	>1	?-FA	Geoffrey Hattersley- Smith <i>et al.</i>	
2	?	2		?	?	
3	1982 Canadian	3	>4	NE Face	Steve Trafton Allan Errington Bill Robinson	
		4	>6	NE Face	Rick Piercy Brad Albro	

4	2012 Jubilee	5	>13	North Ridge-FA ?	Antony Jinman Chris Atkinson David Buckley Ben Shearn Johnny Issaluk Tom Perriment Oliver Milroy
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9.3. Expedition Risk Assessment

9.3.1 Risk Assessment

- **Hazard** – Something with the potential to cause harm or injury.
- **Risk** – The harm or injury arising from a hazard.

Table 9.5. Definition of the Severity and Likelihood of an Accident Occurring

Possible Severity of Injury (PSI)		Likelihood of Accident Occurring (LAO)	
Major (As defined by RIDDOR 95*)	1	Very likely (Certain/near certain)	1
Minor (Requires qualified medical staff)	2	Likely (Frequently)	2
Slight (Requires minimal first aid)	3	Unlikely (Seldom)	3

Table 9.6. Definition of Hazards and Related Control Measures

Significant Hazard	Risk	PSI	LAO	Control Measures
Travelling by air	Aircraft crash	3	1	Use of reputable airline/operator.
	Hijack	3	1	The politics of Greenland and Iceland make flights to these countries an unlikely subject of hijacking.
Travelling by bus/ taxi	Road traffic accident	3	1	Wear seat belts if available.
Operating in remote areas	Illness or disease	3	1	All will complete confidential medical report. Individuals are responsible for taking and carrying sufficient of their prescribed medication.
	Food poisoning	2	1	Experienced wilderness first aiders on expedition. Individuals responsible for hand cleanliness after toileting.

				Care to be taken when handling food.
				Care to be taken in re-hydrating food properly.
Manual labour	Injury or damage to equipment	2	2	Training in safe lifting practice; all expedition members expected to be physically fit and prepared for the expedition, expedition equipment to be packed in manageable sizes with manual handling in mind.
Stoves & fires	Burns, scalds and damage to equipment	3	3	Training in correct operation of camping stoves. When using fires, employ precautions against spread of flames and inhalation of toxic fumes.
Poor ventilation	Carbon Monoxide Poisoning	3	1	Adequate ventilation must be maintained when using stoves in either tents (via open doors) or snow holes (via a maintained air hole).
Communications failure	Unnecessary search & rescue	2	1	Briefing on radio failure plan.
Operating in poorly mapped areas	Getting lost (grouped)	2	1	Navigation training. Appropriate survival & navigation equipment carried. PIM reports at regular radio checks.
Foul weather	Accident & Injury	2	1	Suitable equipment and adequate supplies to sit out storms.
Mountain walking	Boots rubbing	2	2	Briefing on the need to wear-in boots. Advice and briefing on foot care and its importance.
Walking in crampons	Slips, trips, kicking yourself in the leg	1	3	Training and practice in safe areas.
Glacier travel	Falls	2	1	Training in crevasse avoidance and expedition rescue methods. Always roped up on wet glacier.
Ice axe arrest training	Injury	3	1	Wear helmets, Choose a suitable venue (steepness/ run-out). Don't wear crampons during training. Do wear clothes to provide full body cover.
Training in crevasse rescue (different from actual rescue)	Accident/injury	3	1	Choose a suitable location. Briefing about safe areas. Use extra anchors and/or a safety rope if required.
Avalanche	Injury or Burial	3	1	Avoidance of threatened areas, especially laden slopes after snowfall.
Serac fall	Injury	3	1	Avoid threatened areas, especially in afternoon. Wear helmets in exposed areas.

Rock fall	Injury	3	1	Care with route choice. Helmets to be worn in high risk areas.
Lack of fitness	Injury	3	2	Briefing will be given on the need to train.
Operating in outdoors	Hypothermia	3	1	Advice on selection of personal clothing and equipment. All expedition members to monitor each other. Briefing on prevention, signs, symptoms & treatment.
Operating on snow & ice	Snow blindness	3	1	Use of glacier protective glasses and goggles as appropriate.
Operating in cold temperatures	Frost nip	1	2	Advice on selection of personal clothing and equipment. All expedition members to monitor each other for symptoms. Training and briefing on prevention, signs, symptoms & treatment.
	Frost bite	3	1	Advice on selection of personal clothing and equipment. All expedition members to monitor each other for symptoms. Training and briefing on prevention, signs, symptoms & treatment.
Physical activity in outdoors	Heat exhaustion	3	1	Advice on selection of personal clothing and equipment. Advice on fluid intake. All expedition members to monitor each other for symptoms. Training and briefing on prevention, signs, symptoms & treatment.
	Heat stroke	3	1	Advice on selection of personal clothing and equipment. Advice on fluid intake. All expedition members to monitor each other for symptoms. Training and briefing on prevention, signs, symptoms & treatment.
	Sunburn	2	2	Advice on selection of personal clothing and equipment. All expedition members to monitor each other for symptoms. Training and briefing on prevention, signs, symptoms & treatment.

9.3.2. Summary of Risk Assessment

1. There are 4 LAO's of 3 (i.e. very likely); 'Burns, scalds & damage to equipment from using camping stoves and fires' and 'Slips, trips and falls while mountain walking', 'Slips, trips and kicking oneself in leg while walking in crampons. All of these would have the same level of risk if carried out in the UK.
2. The risk assessment flags-up the remaining 'likely' rated activities for special care and consideration by expedition members.

3. The control measures will be implemented to reduce LAO. The success of many of the control measures depends upon the individual responses of expedition members to safety briefings.

9.3.3. Definition of 'Major injury' by RIDDOR 95

- a. Fracture other than to fingers, thumbs or toes;
- b. amputation;
- c. Dislocation of the shoulder, hip, knee or spine;
- d. Loss of sight (temporary or permanent);
- e. Chemical or hot metal burn to the eye or any penetrating injury to the eye;
- f. Injury resulting from an electric shock or electrical burn leading to unconsciousness or requiring resuscitation or admittance to hospital for more than 24 hours;
- g. Any other injury: leading to hypothermia, heat-induced illness or unconsciousness; or requiring resuscitation; or requiring admittance to hospital for more than 24 hours;
- h. Unconsciousness caused by asphyxia or exposure to harmful substance or biological agent;
- i. Acute illness requiring medical treatment, or loss of consciousness arising from absorption of any substance by inhalation, ingestion or through the skin;
- j. Acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a biological agent or its toxins or infected material.

9.4. Environmental and Social Impact Assessment

Throughout the expedition the team members acted in accordance to the following environmental and social impact assessment.

9.4.1. Provision(s) for Disposal of Waste, Human and Other

Human - The expedition will utilise outhouses wherever they are provided. In the event of no outhouse being available, an individual will locate a spot at least 50 metres (165 feet) from any trail, campsite or water source and proceed to dig a hole 15-20 cm (6-8 inches) deep with a trowel or shovel to bury any waste and toilet paper. Use of toilet paper will be kept to a minimum.

Water - Any waste water will be disposed of in a well-drained area, down slope from a campsite and at least 50 metres from a trail, campsite or water source.

Other - All food waste and packaging will be carried out by the expedition.

9.4.2. Mitigation Techniques to Minimize the Human Footprint of the Expedition

By behaving appropriately and travelling responsibly the expedition aims to leave the area in a better condition to how we find it. This will be achieved by ensuring suitable waste disposal, avoiding the spread of invasive species by minimising contact with sensitive areas and repairing any degraded areas where possible.

The expedition has been meticulously planned based upon up to date research in to the local region and environment of Ellesmere Island in the vicinity of Lake Hazen and Barbeau Peak. We have consulted extensively with Parks Canada to ensure the rules of the wilderness area are upheld, whilst organising the expedition in mind of any permits needed (received from Parks Canada) and keeping our group size to a minimum. Additionally, from Parks Canada and other additional sources, we have investigated the climate and weather we predict to encounter as well as gathering information upon the terrain will be travelling across where available. Sensitive areas will be avoided and designated trails will be used where available to protect wildlife habitats and soil erosion. Any sites of historical, archaeological or paleontological interest will not be disturbed. Noise pollution will be minimised.

9.4.3. Techniques for Minimising Impact on Flora and Fauna

Any wildlife encountered will be given a wide berth and no wildlife will be fed during the expedition. Important wildlife areas will not be disturbed such as animal dens, bird nests and noticeable feeding areas.

Individuals will tread carefully when moving within the park to minimise any impact to vegetation, lichens, mosses, and soils. Individuals will walk on exposed rocks, beaches and trails where available. All objects and living things will remain undisturbed where found including plants, rocks, antlers, and cultural artefacts.

9.4.4. Food Preparation and Storage

All excess packaging will be removed before the expedition. Food will be stored away from the tent to minimise the chance of encouraging wildlife encounters. On advice from Parks Canada, it is extremely unlikely for the expedition to encounter any bears due to the inland location on Ellesmere Island.

9.4.5. Use of Open Fires

No open fires will be used.

10. BIBLIOGRAPHY

10.1. Barbeau Peak and Expedition Skills

Altheim, K. (2012). *Barbeau Peak*. Available: <http://bivouac.com/MtnPg.asp?MtnId=261>. Last accessed 25.3.2013.

Bennett, J. (1999). *Not Won in A Day: Climbing Canada's Highpoints*. Calgary: Rocky Mountain Books. 134. Available:

<http://books.google.co.uk/books?id=xUpIE4tXK0oC&pg=PA134&lpg=PA134&dq=climb+barbeau+peak&source=bl&ots=xrL01KBftO&sig=mGLXr9mq3YJgXEkOb3BqzivdkJk&hl=en&sa=X&ei=KT9QUaetCKy m0wWOgoGYAg&ved=0CEkQ6AEwBA#v=onepage&q=climb%20barbeau%20peak&f=false>. Last accessed 25.3.2013.

CanaTREK: The Summits of Canada. (2006). *Nunavut - Barbeau Peak*. Available: <http://www.summitsofcanada.ca/canatrek/summits/nunavut.html>. Last accessed 25.3.2013.

Cunningham, A. & Fyffe, A. (2006). *Winter Skills: Essential walking and climbing techniques*. Hinkley, UK: Vertebrate Graphics Limited.

Cordee.Dick, L. (2001). *Muskox land: Ellesmere Island in the age of contact* (Vol. 5). Calgary: University of Calgary Press.

Google. (2013). *Barbeau Peak, Ellesmere Island*. Available: http://maps.google.co.uk/maps?hl=en&rlz=1R2ADFA_enGB456&bav=on.2,or.r_qf.&bvm=bv.44158598,d.d2k&biw=1429&bih=751&wrapid=tlif136425078686010&q=barbeau+peak+map&um=1&ie=UTF-8&hq=&hnear=0x4fd0759ddef3975. Last accessed 25.3.2013

Lotz, J. R., & Sagar, R. B. (1962). Northern Ellesmere Island: an Arctic desert. *Geografiska Annaler*, 44(3/4), 366-377.

Peters, L. (2011). *Rock Climbing: Essential skills and techniques*. 2nd ed. Sheffield, UK: Vertebrate Graphics Limited.

Phillips, E. (1995). *The Ball That Rolled*. Available: <http://www.icetrek.com/index.php?id=228>. Last accessed 25.3.2013.

Summit Post. (2013). *Barbeau Peak*. Available: <http://www.summitpost.org/barbeau-peak/152382>. Last accessed 25.3.2013

10.2. Useful links

10.2.1. Advice

<http://www.alpineskiclub.org.uk/> - Technical and funding advice.

<http://www.arcticclub.org.uk/> - Good source of contacts and information regarding Arctic travel in general. Also provides useful links to various scientific pages about the Arctic.

<http://www.kodak.com/global/en/professional/support/techPubs/c9/c9.jhtml>. - Good article giving advice on how to get the most out of your photography in the Arctic.

10.2.2. Expedition Databases & Reports

<http://www.alpine-club.org.uk> – General advice and a database of expedition reports.

<http://www.thebmc.co.uk/world.htm> - Technical advice, insurance and funding as well as a comprehensive database of expedition reports.

<http://www.explorersweb.com/index.html> - General advice and up to date news on Arctic, Antarctic and mountaineering expeditions.

<http://www.extreme-planet.com/> - Up to date news on Arctic and Antarctic expeditions.

<http://www.rgs.org/SpecialInterests/fieldworkandexpeditions/Expedition+Advisory+Centre.htm> -

Broad collection of expedition reports to destinations all over the world.

<http://www.mef.org.uk/> - Funders of expeditions and also has a small database of expedition reports.

10.2.3. Medical sites

<http://www.thebmc.co.uk/world/mm/mm0.htm> - UIAA mountain medicine centre provides useful expedition resources (e.g. advice sheets) for a variety of high altitude and expedition medical concerns.

www.wildernessmedicaltraining.co.uk - Providers of specialised wilderness basic and advanced first aid courses for doctors and laypeople.