



New Zealand Expedition to Anidesha Chuli/White Wave, 6,900m
Kangchenjunga Himalaya, Nepal
April-May 2013
EXPEDITION REPORT
for
MOUNT EVEREST FOUNDATION

Rob Frost

Ben Dare

Scott Blackford Scheele

Andrei van Dusschoten

Summary

In April and May 2013, four experienced New Zealand mountaineers attempted the first ascent of Anidesha Chuli (6,900m) aka 'White Wave,' located in North-eastern Nepal. The expedition did not result in a summit – the first attempt was aborted after one climber suffered severe concussion following a serious fall, while the second attempt was abandoned due to problems with communication equipment. However, the expedition was considered a success in that all team members safely returned home, still friends, with no permanent injuries or illnesses. In addition they shared a great adventure and explored a seldom visited valley in a remote and beautiful corner of the Himalaya. Last but not least, they all but unlocked the secret of how to climb Anidesha Chuli.

The expedition members departed New Zealand for Nepal on 7 April 2013. On 13 April the team, together with their three support staff and 28 porters, began their trekking approach into the Kangchenjunga Himalaya. Eight days later they reached the stark Ramtang Valley, a tributary of the Kangchenjunga Valley. Base Camp was established on the Ramtang Glacier at 4,800m; Camp 1 on the edge of the Ramtang Icefall at 5,500m, and Camp 2 on the Ramtang Neve at 6,000m.

The team departed Base Camp on 1 May for their first summit attempt. By early afternoon on 4 May, Ben and Scott were less than 50m from the crest of the East Ridge where they intended to set up Camp 3 at 6,500m. Scott was leading the penultimate pitch when (most likely) an avalanche resulted in him falling around 85m, and sustaining severe concussion. There is no doubt that the snow stake anchor saved both climbers' lives. For the next 24 hours Ben lowered and assisted Scott back down to Camp 2, and once there, activated an emergency beacon, prompting Rob and Andrei to climb through the night from Base Camp to Camp 2 to provide assistance.

Scott and Ben were evacuated by helicopter on 6 May, and Scott has since recovered completely. The team are thankful that they developed a robust emergency action plan before departure, and that they took several independent devices for communication, as these factors ultimately enabled an efficient evacuation for Scott and Ben.

Three days after the evacuation, after learning that Scott's condition was stable and improving, Andrei and Rob embarked on a second summit attempt via a slightly different route, only for this to be halted at Camp 1 due to their last remaining form of communication – a satellite phone – not being usable. This signalled the end of the expedition.

Scott's accident generated significant media attention in New Zealand. Thankfully the media chose to focus on the positive aspects of the rescue rather than on the dangers of mountaineering.

The route chosen for the first attempt was certainly feasible and relatively direct. However, a slightly more circuitous route via the col at the base of the East Ridge is likely to have been less technical and less threatened by objective dangers. The team recommends this route, and the pre-monsoon season, for future expeditions to the mountain.

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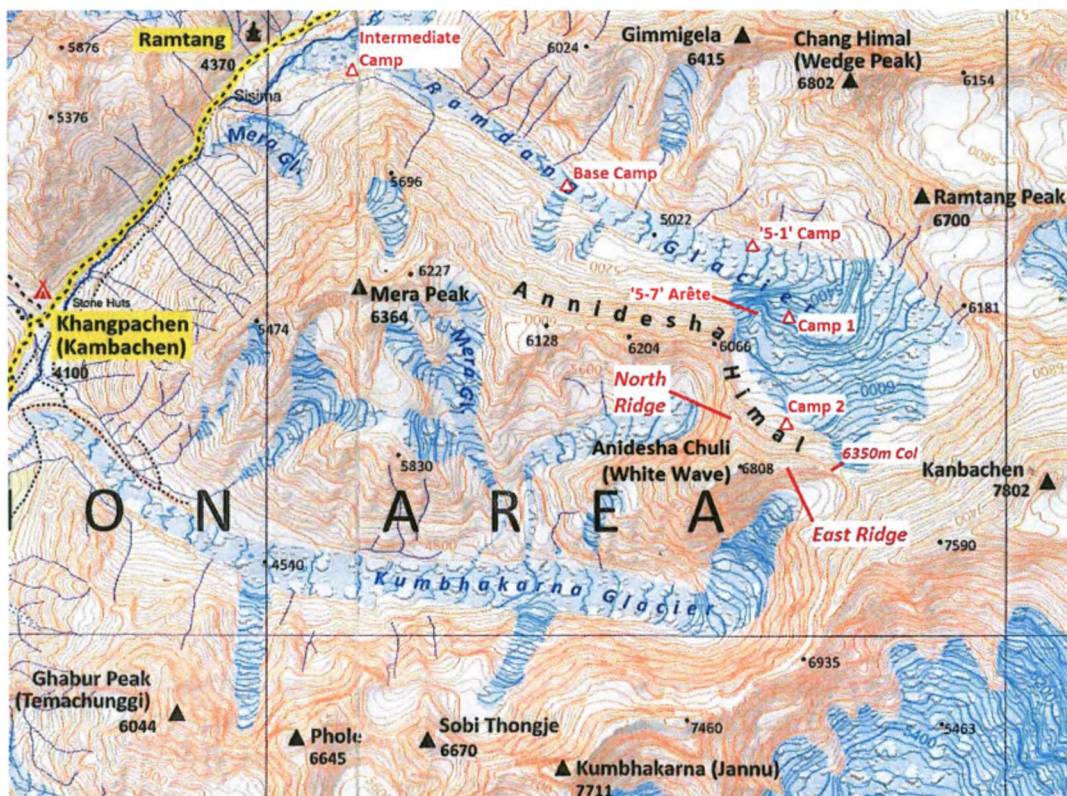
Expedition Aim and Background

Aim

The primary aim of the expedition was to make the first ascent of a beautiful mountain named Anidesha Chuli/White Wave (6,900m) in the Kangchenjunga Himalaya of North-east Nepal. This is a remote part of the Himalaya with a strong New Zealand history. Our team of four planned to climb in a reasonably lightweight, flexible, low-impact style.

The mountain

Anidesha Chuli is the highest point of the Anidesha Himal, the range separating the Ramtang Valley on the north from the Jannu/Kumbhakarna Valley on the south. The elevation of Anidesha Chuli varies on modern maps from 6,808m to 6,960m. The mountain has two summits – the north-east and south-west summits – which are approximately 400m apart, and maps are not clear about which is the highest. Photographs taken from the north-west indicate that the south-west summit is probably higher.

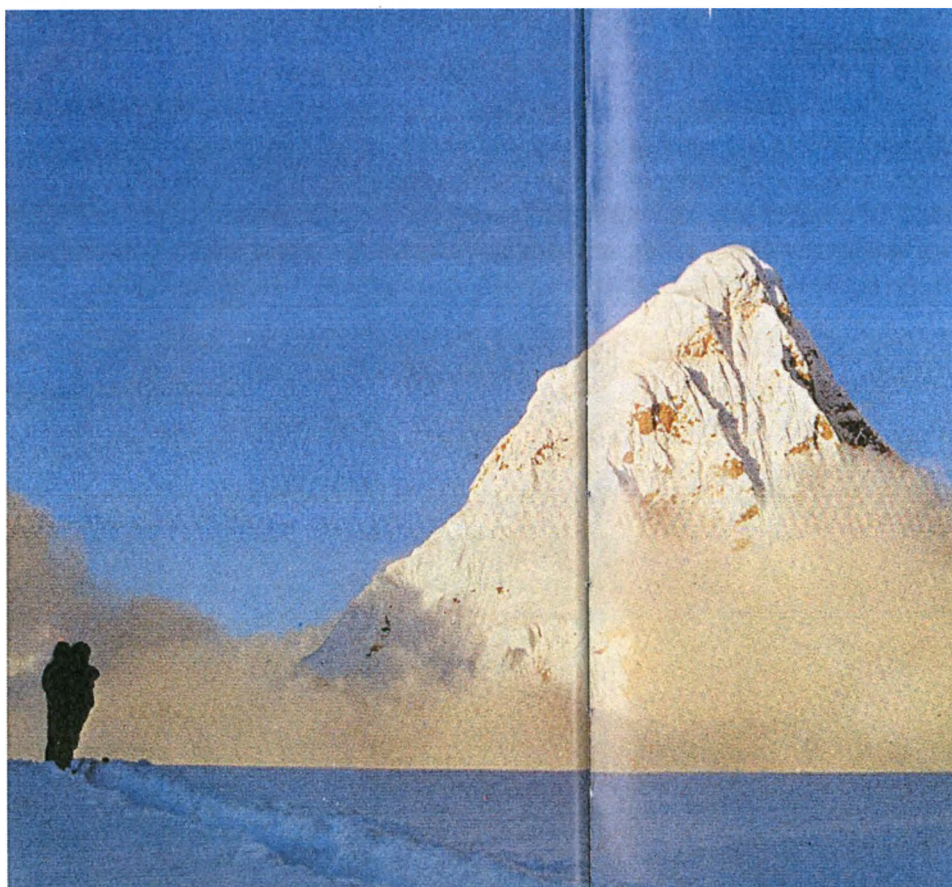


Annotated excerpt from Nepa Maps 1:100,000 map of the Kangchenjunga Region

Anidesha Chuli was added to the Nepalese government's list of Expedition Peaks in 2002, and is also on their Unclimbed Peaks list. We confirmed the unclimbed status of the mountain with our own research (see Information sources below), through which we were unable to find any records of attempts to climb Anidesha Chuli.

Information sources

We became aware of Anidesha Chuli through a book about the 1975 New Zealand attempt on Jannu, *Wall of Shadows*, by Graeme Dingle, 1976. The book contains three photos of the mountain, proclaiming it “awesome”, “beautiful,” and “unclimbed.”



Another view of the awesome White Wave, this time as seen from near Camp Two. To date, this beautiful mountain remains unclimbed.

Anidesha Chuli from Jannu/Kumbhakarna, taken from Wall of Shadows by G Dingle

To confirm that Anidesha Chuli is actually unclimbed, we searched AAJ and BMC records, the Himalayan Index, Jan Kielkowski’s 1999 mountaineering guide/database of the area, Liz Hawley’s Himalayan Database, and performed extensive online research. (During our final preparation in Kathmandu, we were interviewed by one of Ms Hawley’s staff about our expedition, as she had not previously heard of Anidesha Chuli.)

During a trek to the area in 2011, Rob came across a book about a 1975 Yugoslavian expedition to Kambachen (7,802m), which contained a photo of Anidesha Chuli from the north-east. This confirmed our suspicions that the Ramtang, or north-eastern, aspect of the mountain was likely to provide a less technical route to the summit of Anidesha Chuli than the Jannu, or south-western, aspect.

Destination area

Anidesha Chuli is located in the heart of the Kangchenjunga Himalaya, in the north-eastern corner of Nepal. This is a region of deep gorges, long approaches, heavy rainfall, and isolated villages. The region was opened to trekkers in 1988, and is currently a Restricted Area, which means foreigners require a guide or liaison officer to be given an entry permit. Access to the region is usually through the town of Taplejung (1,800m), which can be reached by air from Kathmandu, or via a fully-sealed road. Trekking approaches from Taplejung to the peaks surrounding Kangchenjunga typically take between 8 and 11 days.

The region is named after its highest peak, Kangchenjunga (8,586m), the world's third highest mountain, first climbed by a British team in May 1955. New Zealander Norman Hardie was deputy leader of the 1955 expedition and one of four members to summit. Another notable peak in the area is the spectacular Jannu/Kumbhakarna (7,711m), first climbed from the South by a French team in 1962. A large New Zealand team attempted the imposing North Face of Jannu in 1975. They experienced cold conditions, strong winds, and high snowfall, and turned back at the beginning of the summit ridge. A Japanese team completed the route in good conditions seven months later in 1976.

In 2012, a six-strong New Zealand team completed the first ascent of Suyakong (6,041m), near Yangma in the north-western corner of the Kangchenjunga Himalaya.

Closer to Anidesha Chuli, a small handful of expeditions explored the Ramtang Valley between 1930 and 1975, mostly for attempts on Kambachen (7,802m). Accounts of those expeditions revealed that a route from the Ramtang Glacier has been used to access a high col at the base of Anidesha Chuli's East Ridge (6,350m). This col has never been accessed from the Jannu valley.

Expedition Team

All four members in our team come from different mountaineering backgrounds, resulting in a broad mix of experience and age. All members have a history of strong technical climbing and we all enjoy trips to remote places. Most of our mountaineering experience was gained in New Zealand's Southern Alps.



Andrei

Ben

Rob

Scott

(Note – ages are at commencement of expedition)

Rob Frost, 30, New Zealander

Rob has a particular fondness for remote climbing objectives, which stems from his tramping and transalpine background. As well has successful climbs of several major peaks in the Southern Alps, Rob has completed new routes in Fiordland, Queenstown, South Westland, and Arthurs Pass. Rob and his partner Claire completed a trek to the Kangchenjunga Region of Nepal in September 2011. The idea to attempt Anidesha Chuli was Rob's and he was the primary organiser of the expedition.

Ben Dare, 29, New Zealander

Ben began mountaineering eight years ago and quickly became technically proficient, confident, and fast on difficult objectives. He has an impressive record of hard new routes in New Zealand, many completed solo. In 2011 Ben organised an expedition which achieved a new route on the south-west face of Kusum Kanguru (6,369m), in the Khumbu Himalaya (to the crest of the West Ridge). He has also climbed in the Chilean Andes (completing three new routes) and the European Alps.

Andrei van Dusschoten, 37, New Zealander

Andrei began climbing 15 years ago after forming a solid tramping background. Andrei shows impressive ability, confidence, and determination on his climbs, and is thoughtful and cautious during planning and preparation. Andrei has completed several major climbs in New Zealand and undertook three high-altitude trekking expeditions in the Himalaya (2003, and 2010 x 2). In January 2010, Andrei and Rob, with Guy McKinnon, made the first ascent of the North Rib of Mt Grave in Fiordland.

Scott Blackford Scheele, 24, USA citizen

Scott was raised in Minnesota, and moved to New Zealand in 2007 to complete a degree at Otago University. From then until October 2013 he worked as a guide at Fox Glacier. Scott became a senior guide and NZ Mountain Guides Association member in 2011. Scott is a conscientious and enthusiastic traveller and has a widespread reputation as a safe, fit, strong climber. In April 2012, Scott and Ben made the third ascent of the 'Range Rover Route' (1,300m) on the remote Kaipō Wall in the Darran Mountains.

Finances

Despite being a small-scale, reasonably lightweight expedition, our average per-person costs were reasonably high due to the remoteness of the objective and the allowance for a full three weeks at or above base camp.

It is clear that without generous financial support from Sport New Zealand, the Mount Everest Foundation, and the New Zealand Alpine Club, the expedition could not have gone ahead, and we are extremely grateful for that support.

Below is a summary of our income and expenditure. A more detailed financial account is provided in Appendix A. Please note that this summary does not include items associated with Scott's accident and subsequent travel and medical care, for which we have received travel insurance reimbursement (claims totalled approximately \$30,000).

Income (NZ\$)		Expenditure (NZ\$)	
Grants	\$ 27,403.09	Flights	\$ 7,233.00
Donations	\$ 200.00	Logistical Services*	\$ 21,883.66
Miscellaneous	\$ 292.00	Travel Insurance	\$ 2,380.00
Team Member Contributions	\$ 16,161.00	Team Equipment	\$ 4,446.65
		Food (excl trekking meals)	\$ 2,287.89
		Gifts and Tips	\$ 1,066.65
		Cash expenses (incl trekking meals & accomm)	\$ 3,192.00
		Miscellaneous	\$ 1,566.24
Total Income	\$ 44,056.09	Total Expenditure	\$ 44,056.09

* For a list of items included in the Logistical Services, see Appendix B.

In addition to the above team expenses, individual expenses totalled approximately \$17,000, for items such as personal climbing equipment and clothing, personal energy food, and vaccinations.

Logistics

Locally-arranged logistics

Logistical requirements such as applying for permits, organising base camp equipment, arranging staff, porters, and their insurance, transport to/from the expedition area and countless smaller but essential tasks, would have been impossible to coordinate from New Zealand. A specialist agent based in Kathmandu is essential for the provision of logistical services for any mountaineering expedition to Nepal. A local agent has the required knowledge and contacts which we could never dream of acquiring, and can make the necessary in-person communication with the relevant agencies and service providers.

We engaged the services of Dream Himalaya Adventures Pvt. Ltd (DHA), run by Dawa Sambu Lama. Rob was impressed with Dawa's capabilities and professionalism when Dawa provided logistical support for Rob and his partner Claire during a trek to the expedition area in 2011.

A copy of our contract with DHA, outlining all logistical services provided, is provided in Appendix B.

Dream Himalaya Adventures Team:



*Dawa Lama
(DHA Director)*

*Sundaray (Dawa)
(Cook Boy)*

*Nima Bhote
(Sirdar)*

*Ang Nima
(Cook)*

Permits required

Visitors to Nepal require a visa to enter. Each team member obtained a 90 day visa on arrival at Tribhuvan Airport for US\$100.

Anidesha Chuli is on the Nepalese Ministry of Culture, Tourism and Civil Aviation's list of Expedition Peaks, and can only be attempted with a peak permit from the Ministry. The cost of a peak permit for an expedition peak between 6,500m and 6,999m, attempted in the pre-monsoon season by a party of four, is US\$1,600. Expedition teams attempting peaks over 6,500m must be accompanied by a Liaison Officer (LO), whose costs (US\$1,800) must also be covered by the expedition team.

Anidesha Chuli is located in the Kangchenjunga Conservation Area (KCA) which is a 'Restricted Area.' A mountaineering peak permit overrides the need for any additional permits and fees associated with visiting the area. However, trekkers – including non-climbing members of an expedition party – visiting the KCA must obtain a trekking permit, which can be arranged by an agent in Kathmandu. Conditions of the permit require that trekkers be accompanied by a Nepali guide and pay US\$10 per week to cover the duration of their trek in the area.

DHA applied to the ministry for the peak permit on our behalf. A 'preliminary permit' was issued several months prior to the team's departure from New Zealand, to confirm that we would be given permission to attempt Anidesha Chuli. The final permit was dependent on (a) full payment of the permit fee, and (b)

our attendance at a briefing held at the ministry's office in Kathmandu, which took place during the three days we had in Kathmandu at the beginning of the expedition.

Our permits were checked at the entrance to the KCA on the second day of our trek, in Taplethok. Currently anyone approaching via a route further east would have their permits checked in Yamphudin.

(Note: We were introduced to our LO during the briefing at the Ministry's office prior to our departure from Kathmandu. He advised that he would follow a couple of days after us and meet us at Base Camp. We never saw him during the expedition, but he appeared again upon our return to Kathmandu, when he 'helped' us fill out his appraisal form. This sort of practice seems to be commonplace. He claims that he trekked for two days up the approach route, fell ill, and returned. In any case, the Ministry did not request to see a photo of the LO at base camp which we were supposed to take.)

Travel Insurance

We took out High Risk Activity travel insurance through a policy held by the New Zealand Alpine Club with ACE Insurance. This included an extension covering evacuation and medical expenses related to mountaineering up to an altitude of 7,000m.

Transport

For air travel from Christchurch to Kathmandu, we used Emirates due to their generous baggage allowance (30kg/person check-in baggage). By maximising the use of that allowance, and by purchasing or hiring some food and equipment in Nepal (see Equipment, below), we eliminated the need to ship any goods from New Zealand to Nepal.

For travel within Kathmandu, DHA provided a van and driver to take us to our hotel, supermarket, and the office of the Ministry of Culture, Tourism, and Civil Aviation. Local taxis were also used on occasion, which were easy and cheap. Shopping for the final pieces of equipment was all done on foot, as all required shops were located within 10-15 minutes of each other in Thamel.

To get from Kathmandu to Taplejung – the starting point for our trek – it is possible to fly to an airstrip at Suketar near Taplejung. Until recently, flying was the easiest way to reach Taplejung, as the road from the Terai (plains) was long, steep, muddy, erosion-prone, and often impassable. However, the road was

completely paved during 2011 and 2012 and this route is now more reliable than flying, as the twice-weekly flights are often delayed or cancelled due to cloudy weather. Passengers on flights are also limited to 15kg of baggage each, so most expedition equipment and food must travel overland anyway.



The bus transition in Birtamod

DHA organised the hire of two private buses: one to take the expedition team from Kathmandu to Birtamod (15 hours) and a second from Birtamod to Taplejung (12 hours). We chose to travel these two legs of the journey consecutively, with only one hour in Birtamod to change buses.

Food & accommodation

For accommodation in Kathmandu, we stayed at hotels organised by DHA: Kathmandu Guest House prior to the expedition, and Hotel Ganesh Himal afterwards. Kathmandu Guest House charges a premium due to being one of the original Hotels in Kathmandu and being located at the centre of Thamel. We were disappointed with the noise, dirty rooms, and overall poor value for money here. We were very pleased with Hotel Ganesh Himal, which was reasonably cheap, quiet, clean, and five minutes' walk from Thamel.

For meals in Kathmandu, we indulged in an impressive range of international cuisine thanks to the large number of good quality restaurants in Thamel. For safe, fresh meals, we highly recommend Or2K. Generally we were not affected by any food poisoning, apart from two of the team suffering a short bout of gastroenteritis as a result of eating insufficiently-cooked momos after the expedition.

During the trek from Taplejung to Base Camp, we stayed at basic guest houses as far as Kambachen. Mattresses were always provided, but in some cases consisted only of a layer of carpet on a plywood base. One team member was subject to an attack of bedbugs. Guests need to provide their own sleeping bags. The charge for accommodation was usually small, but the guest houses made most of their income by providing breakfasts (usually omelette with chapatti or Tibetan bread) and dinners (usually dal bhat



Guesthouse in Sekethum

with curry). The total charge for dinner, beer, lodging, breakfast, and tea for four people ranged from 1,800 rupees¹ (in Sinwa, one day from Taplejung) to 6,500 rupees (in Kambachen, one day below Base Camp). Lunches (usually noodles) were purchased at small villages en route and typically cost 50-100 rupees each. We also purchased a variety of snack foods for the trek in Kathmandu.

Tents and food at Base Camp were part of the logistical services provided by DHA. The tents included:

- Two good quality 3-person Ozark tents, with foam mattresses, for the climbing team, plus a third Ozark tent for the Base Camp staff;
- Large, steel-frame mess tent with tables and chairs;
- Kitchen tent;
- Toilet tent; and
- (occasionally) a Shower tent.

The food included fresh vegetables and meat from local villages, and more eggs than we could count. We were constantly impressed with the ability of the Base Camp staff to come up with a huge variety healthy, good-tasting food. (We purchased additional 'treats' in Kathmandu, such as whiskey and chocolate, but ultimately these were superfluous due to the desserts, beer and wine provided to us.)

¹ At the time of our expedition, 1,000 rupees = approx. NZ\$14.00, or US\$11.50.

On the mountain, every dinner and most breakfasts consisted of freeze-dried meals made by Back Country Cuisine in New Zealand, which were delicious and easy to prepare. Each of us took a mix of single-serve and two-serve meals. Two-serve dinners and single-serve breakfasts were generally the preferred meal size for each person. The meals seemed to rehydrate successfully despite the altitude reducing the boiling temperature. Some breakfasts consisted of muesli and milk powder purchased in Kathmandu.

Snack foods on the mountain mostly comprised energy food purchased in New Zealand and online from the USA. These were chosen and purchased individually due to personal preferences, but included One Square Meals, Bumper Bars, GU gels, GU chomps, Clif Bars, Clif Shot Bloks, Leppin Gels, Leppin Enduro Booster, Raiseys Hydrate, NUUN electrolyte tablets, and Raw Revolution Bars.

Additional snacks for on the mountain were purchased at the well-stocked Bhatbhateni supermarket in Kathmandu. These included chocolate bars, nuts, dried fruit, dried meat, and crackers. We also purchased chlorine tablets in Kathmandu for treating water for drinking during the approach trek. These worked well and the taste was very acceptable.

Overall we were very satisfied with the food we had at all stages of the expedition, and recommend the same to similar expeditions.

Equipment

Below are lists of team and individual equipment which was taken on the expedition, including gear used during the approach trek. Comments on equipment are included in the Discussion section of this report.

(* - purchased in Nepal # - hired from DHA)

Team equipment

- | | |
|---|--|
| <p>Ropes: 60m, 8.6mm half rope x2
 60m, 9.1mm single rope*
 50m, 9.0mm half rope*
 6mm cord x 40m (in 4m lengths)</p> <p>Rack: 13-16cm ice screws x8
 Aspiring snow stake x2
 Aspiring snow pig x2
 Thin/light snow stake x4*
 (heavier stakes not avail in Ktm)
 Knifeblade pitons x4
 Angle pitons x3
 Wires (1 set)
 Camalot 0.3 to 2.0
 60cm sling x8</p> <p>Tents: 3-person Ozark expedition tents x3#
 (+3# at base camp)
 Black Diamond Firstlight
 Macpac Minaret
 Terra Nova Superlite Bothy 4
 Mont Bell snow anchors for tents x14</p> | <p>Comms: McMurdo Max G 406 MHz beacon
 Thuraya satellite phone#
 Yaesu 2-way radios x2#
 DeLorme InReach (with iPad)</p> <p>Base Camp medical kit (see Appendix C)
 Mountain first aid kits x2 (see Appendix C)
 Hand sanitizer
 Insect repellent
 LPG heater for Base Camp#
 Repair kit
 GoalZero solar charger#
 1:100,000 Map
 Digital scales for weighing porter loads
 Back-up headlamp
 Bamboo wands*
 Stoves: Jetboil with Sol pot
 Jetboil with Sumo pot
 MSR Reactor
 MSR 230g gas canisters x16*
 Duffel bags x10 (#5 from DHA, 5 from NZ)
 Nepali cash</p> |
|---|--|

Personal equipment

Climbing harness
Locking carabiners x4
Snaplink carabiners x10-12
Belay/abseil device
Lightweight ascending device x1-2
22cm ice screw x1
Abalakov threader
120cm sling x1
60cm sling x3
Helmet
Whistle
Avalanche transceiver
Shovel
Avalanche probe
Crampons
Ice axe & hammer
Trekking poles
35-50 litre pack

Foam mat and/or lightweight Therma-rest
Mountain sleeping bag (typically 700g of down)
Base Camp sleeping bag
Sleeping bag liner
Pocketknife or Leatherman
Wristwatch
Sunglasses and goggles
Sunblock
Headlamp
Spare headlamp batteries
Water bottles with insulators
Pee bottle
Lighters and/or flint & steel
Spoon
Camera
Spare camera batteries & SD cards
Battery chargers
Toiletries
Reading/writing material

Clothing

Personal preferences played a large part in the clothing which was taken on the expedition, but each team member generally had a selection of clothing similar to the following list:

Approach:

Sneakers or light hiking boots
Lightweight trekking shirt, trousers and shorts
Hiking socks
Sunhat
Sandals
Merino thermal tops (x2-3) and leggings
Thermal gloves
Beanie
Rainjacket

Climbing:

Double boots, socks and super-gaiters
Powerstretch bibs
Lightweight long-sleeve thermal top
Powerstretch hoodie
Driclime jacket or similar
Lightweight synthetic jacket and pants
Down jacket
Salopettes or softshell trousers
Hardshell or softshell jacket
Balaclava x2
Selection of gloves
Down/synthetic mitts
Sunhat
Buff or kerchief

Notes and recommendations on clothing are included in the Discussion section of this report.

Photography and filming

The following cameras were taken on the expedition:

Personal cameras: Samsung NX200 (Scott)
Panasonic Lumix LX3 (Rob)
Panasonic Lumix LX3 (Andrei)
Olympus Mu Tough (Ben)

Team camera: GoPro Hero 3 (Silver) with headstrap mount, chest mount, and suction cup mount

We also brought a lightweight laptop and a LaCie Rugged 1TB external hard drive for storage and review of photo and video files.

Personal cameras were used for practically all still photography and most videos. We were all pleased with the cameras we took. The Samsung and Panasonic cameras were capable of recording High Definition video and were used for most scenery and interview footage. The NX200 was particularly well suited to artistic, shallow depth of field videos in dim locations, e.g. inside locals' homes, but was not taken above base camp due to size/weight limitations. For sound, only the built-in camera microphones could be used, which limited use in windy conditions. This did not restrict our filming as much as we thought it would.

The GoPro was regularly used for action footage and we were very impressed with the image quality it could obtain. It was also used for time-lapse stills, and obtained impressively sharp images, but only in well-lit settings and when the case over the lens was very clean.



Still frame from GoPro video

Risk management

Accident prevention

- All team members are skilled alpinists with experience retreating from mountaineering objectives over sustained technical terrain during compromising weather conditions.
- All members received the recommended inoculations/vaccinations prior to departing New Zealand.
- Our itinerary allowed for a conservative acclimatisation schedule (average of 300m/night), to minimise the chance of altitude-related illness. We regularly checked our blood oxygen saturation with a pulse oxymeter to confirm that we were sufficiently acclimatising.
- We received daily weather forecast updates via text messages to our satellite phone. This allowed us to more easily avoid being high on the mountain during stormy weather.

Accident management

Being able to perform self-rescues and administer first aid ourselves² were our primary accident management tools. We also planned to descend immediately if HAPE³ or HACE⁴ was suspected in any team member.

Our back-up accident management tools, in case of a serious incident, involved our communication equipment: a set of two-way radios, a GPS-enabled 406MHz emergency locator beacon, and a satellite phone. We chose this selection so that if the team was split into pairs, each team could have two methods of communication: 1) a radio, and 2) the beacon or satellite phone. The beacon was registered with the Rescue Coordination Centre New Zealand (RCCNZ), who had details of our intentions.

A small group of people who would be in New Zealand during the expedition were selected to be our emergency contacts. We gave them documentation which included the following information:

- Contact information, including team members' next of kin, our agent in Kathmandu, medical contacts, the NZ Honorary Consul in Nepal, RCCNZ, and our weather forecast contact person;
- Expedition itinerary;
- List of medical equipment to be taken on the expedition (included in Appendix C of this report);
- Travel insurance details; and
- An emergency response plan in case of a serious incident.

Other relevant notes

- We were covered by High Risk Activity Travel Insurance, arranged through the NZ Alpine Club.
- A month before departure from New Zealand, Rob and Andrei spent a day with Dr Richard (Dick) Price, an experienced Himalayan expedition doctor based in Timaru. We developed a detailed list of equipment for the mountain and base camp medical kits, and discussed various scenarios that may occur, to determine the best action to take in the case of an accident.

² All team members are trained in outdoor first aid; Rob and Scott are also trained in Pre-Hospital Emergency Care

³ HAPE – High Altitude Pulmonary Edema

⁴ HACE – High Altitude Cerebral Edema

Environmental impact strategy

Prior to the expedition, we were guided in our planning by adherence to the recommendations contained in the UIAA Guidelines for Eco-Compatible Expeditions, the UIAA Ethical Code for Expeditions, and the UIAA Kathmandu Declaration on Mountain Activities.

During the trekking approach, we used existing tracks, routes and toilet facilities where they existed. During the approach we ate almost entirely locally produced food, minimising the requirement for the transport of food.

At Intermediate Camp and Base Camp, we used a designated latrine which was dug well away from any waterways or water sources. Upon leaving the site, the latrines were backfilled and the ground reinstated as near as possible to its original form.

We were absolutely committed to leaving no rubbish or equipment at base camp or on the mountain. This was achieved with the exception of (a) snow stakes and ice screws left behind whilst Ben lowered Scott to Camp 2 after his fall, and (b) a bamboo pole with a NZ flag, Nepalese flag, and prayer flags, which was erected on the 5-7 Arête. We engaged enough porters so that all rubbish from Base Camp was carried out to Taplejung. Our leftover gas canisters, snow stakes, and bamboo wands were donated to the proprietor of the Ghunsa Guest House to be given/sold to future expeditions.

All stoves at Intermediate Camp, Base Camp, and on the mountain burned kerosene or LPG, so that local vegetation was not required as a fuel source for fires.

We used NZ-made equipment where possible to reduce our consumer footprint (for example, Aspiring snow stakes, BackCountry Cuisine meals).

Expedition Timeline

We planned to attempt Anidesha Chuli during the pre-monsoon (Spring) season, due to traditionally warmer temperatures and milder winds than the post-monsoon (Autumn) season. We planned for three weeks at or above Base Camp to allow time for acclimatisation, reconnaissance, and more than one summit attempt. The following are the actual dates of events during the expedition.

Christchurch to Taplejung

- 7 April 2013: The team departed Christchurch, New Zealand together, arriving in Kathmandu on the evening of 8 April, via stopovers in Sydney, Bangkok and Dubai. The team were met at the airport by Dawa Lama, director of Dream Himalaya Adventure (DHA), who provided transport to the Kathmandu Guest House in Thamel.
- 8-10 April: The team stayed in Kathmandu for three days, undertaking the major tasks of purchasing, assembling and packing food and equipment, visiting the Ministry of Tourism to obtain the peak permit, and providing expedition details to the Honorary New Zealand Consul (Lisa Choeygal) and a Himalayan Database representative.
- 11 April: The team departed Kathmandu by private bus, accompanied by the support team from DHA consisting of sirdar Nima Bhote, cook Ang Nima, and cookboy Sunduray (Dawa). Following an early-morning exchange of buses in Birtamod, the team arrived in Taplejung (1,800m) on the afternoon of 12 April, 28 hours after departing Kathmandu.

Approach trek

- 13 April: The climbing team, support team, and two porters departed Taplejung. The other 26 porters left ahead of this group and continued ahead as far as Ghunsa. The route taken followed a well-established trail North up the Tamur Kosi for two days before continuing North-east up the Ghunsa Kola for two more days to Phole (3,150m).



Looking up the lower Ghunsa Khola

- 17 April: In the morning the team – on behalf of Kangchenjunga School Project – met with the head of Phole school to examine damage to school buildings caused by the September 2011 M6.9 earthquake, and offered advice on building design and material salvage options. In the afternoon the team made their way to Ghunsa (3,450m).
- 18 April: Rest day in Ghunsa. The climbing and support teams attended a Puja (blessing) at the Ghunsa Monastery performed by the local lama. The porters were paid off and replaced by yaks.
- 19-20 April: The team and the yaks trekked via Kambachen (4,100m) to where the Ramtang Valley meets the main Kangchenjunga Valley. An '**Intermediate Camp**' was set up at this point (**4,600m**), as the proposed base camp location was deemed too far to trek in one day from Kambachen.

At Intermediate Camp, the team were advised that the terrain in the Ramtang Valley was not suitable for yaks, and that porters were not available for seven days due to an important festival in Ghunsa. After unsuccessful negotiations to overcome this problem and subsequent delay, the team resolved to continue under their own steam, hoping that porters could be arranged as soon as possible to move the intermediate camp to the intended base camp location halfway up the Ramtang Valley at 5,000m.

Reconnaissance of lower mountain

- 21-24 April: Exploratory day-trips up the Ramtang Valley. The team established and stocked two camps on the Ramtang Glacier: **Camp 4-8 (4,800m)** on moraine-covered ice, and **Camp 5-1 (5,100m)** on white ice below the Ramtang icefall.
- 25 April: The team climbed to Camp 5-1 with big loads, and spent the night there.
- 26 April: Ben and Rob established a route up the lower half of the icefall and set up **Camp 1 (5,500m)** on a well-protected ice-ledge, then descended to Camp 5-1. Scott and Andrei descended to Intermediate Camp for porter negotiations and to collect a load of gear, which they carried up to Camp 5-1.
- 27 April: Scott and Andrei carried a load of gear to Camp 1 and spent the night there. Rob and Ben descended to Camp 4-8 and carried a load of gear up to Camp 5-1.
- 28 April: Ben and Rob carried a load of gear to Camp 1, as Andrei and Scott advanced the route up and off the true left edge of the icefall and up a steep snow-filled gully to the top of a rock buttress and snow arête at 5,700m, the '**5-7 Arête**.' This vantage point provided the first unobscured views of the North-eastern aspect of Anidesha Chuli. Photos were taken and the team returned to Camp 4-8, which was in the process of being converted to Base Camp (BC) that day.



The view up the Ramtang Valley from above Intermediate Camp. Kambachen (7,802m) is the dominant peak. The Ramtang icefall is lower-left; the buttress to the right of the icefall is capped by the '5-7 Arête.' Base Camp was positioned just outside the bottom edge of the frame; Camp 1 was positioned out of view behind the 5-7 Arête, on the edge of the icefall.

- 29-30 April: Rest days at **BC (4,800m)** whilst the team spent time planning their attempt.



Base Camp (4,800m) on the Ramtang Glacier

Upper mountain and first attempt

- 1 May: The team climbed to Camp 1 with enough food/equipment for 6-8 days for Ben and Scott, plus four days' food for Rob and Andrei. The plan was to establish Camp 2 on the Ramtang Neve, from where Ben and Scott were keen to push on into a summit attempt. Rob and Andrei planned to spend two nights at Camp 2 for acclimatisation, rest again at Base Camp, then attempt the summit a few days after Ben and Scott.
- 2 May: The team continued to the top of the 5-7 arête, then continued, roped in pairs, through a series of crevasses toward the base of the North-east Face of Anidesha Chuli. Once through the crevasse field, they continued across the Ramtang Neve towards the East Ridge. Two tents were set up to create **Camp 2 (6,000m)**, which was established on a gently-sloping area beneath the east end of the North-east Face, beneath some sizeable seracs, but away from the main fall-line of significant ice cliffs high up on the face. Bamboo wands were now in place from the toe of the Ramtang icefall to around 5,800m on the Ramtang Neve. Significant snow fell in the afternoon with a strong south-westerly wind.
- 3 May: Rest/acclimatisation day at Camp 2. Snow had been falling through the night until early morning. In all a total of about 30cm of snow fell. A strong south-westerly wind continued to buffet the upper mountain until mid-morning. Energy levels were low due to the altitude. The upper mountain was examined and a reasonably safe route through ice cliffs to the East Ridge was identified. The team observed a tongue of avalanche debris beneath the North-east Face that crossed their path from the previous day, further vindicating the decision to wait a day before ascending further.
- 4 May: Andrei and Rob departed Camp 2 at 2:40am with 15-20kg of equipment and food (to be used by Scott and Ben on their attempt) and broke trail to a point just below the first technical climbing (6,200m). They deposited the gear-cache and descended to Camp 2, meeting Ben and Scott around 50m above Camp 2. At Camp 2 Andrei and Rob rested and warmed themselves, then descended towards BC. The teams planned to communicate via two-way radios at 2pm.



Anidesha Chuli (6,900m) from the '5-7 Arête.' NW Face on far right; North Ridge leading to rock slopes on right; East Ridge on left skyline. Camp 2 (6,000m) was established on the Ramtang Neve approximately ¼ across from the left side of the frame, below the large snow ramp. The route climbed to the top of the snow ramp (6,200m) then wove through the series of small icecliffs above. The location of Scott's fall (~6,450m) was 50-100m below the crest of the flat section of the East Ridge.

Scott and Ben picked up the gear cache and continued ascending the lower part of the face un-roped for 50m, before commencing pitched climbing at around 6,250m. The terrain consisted of 55-70° ice steps and 40-50° snow ramps. Climbing anchors primarily consisted of snow stakes, with ice screws where possible. Their route weaved through the steepest ice cliffs and minimised time spent below the large ice cliffs present above them. For the first part of the day they alternated leading pitches, but for the latter part of the day Scott did the leading as Ben was feeling slightly ill with a bad cough. Clouds started gathering in late morning and by early afternoon it was snowing lightly. Small spindrift avalanches were occurring frequently.

At 2pm the teams communicated via radio as planned. Rob and Andrei were passing through Camp 5-1 on their way to BC. Scott and Ben were together at a belay station on 70° ice at around 6,450, and thought they were within two pitches of the crest of the East Ridge. Ben was having some difficulties with his cough and the chance of a summit attempt the following day was low. The most likely scenario would be for Scott and Ben to rest at the proposed Camp 3 on the ridge during 5 May, then attempt the summit on 6 May. However, they would descend to Camp 2 if Ben's condition deteriorated. The teams planned to communicate next at 2pm on 5 May. (More regular communication was not planned due to lack of line-of-sight between Base Camp and the upper mountain, meaning 'base camp team' would need to hike to Camp 5-1 to communicate.)

Around 3pm Scott was advancing the route above the belay. After climbing for 20m the slope angle eased off and the snow thickness increased. Scott felt a little bit uncertain as to the stability of the snow pack here, but deduced that a runner at this location would be dubious at best and time-consuming to place. Scott therefore decided that it would be safest to continue directly upwards toward the crest of the East Ridge which was coming into view above him. He does not know what happened next.

Accident and evacuation

- (still on 4 May) Ben, at the hanging belay, could not see Scott climbing 40m above. When a small spindrift avalanche hit Ben, he hunkered down, and when he regained visibility he saw that the ropes connecting him to Scott were stretched out below him. Scott had fallen between 80 and 90m. Through a break in the cloud Ben saw Scott dangling upside-down, apparently unconscious. The snow stake anchor had held though one stake was badly bent and another had rotated significantly. Ben lowered himself to Scott and found him conscious and struggling to right himself. His helmet had several major cracks and one crampon was snapped in half. Scott apparently had no limb injuries, but his mental state was very confused and speech often incoherent. Ben took control. He lowered Scott two rope lengths and abseiled behind and set up their tent on a snow ledge below an ice cliff as darkness fell. He managed to feed Scott some food and drink before they both settled for a fitful sleep.

- 5 May dawned fine, and Ben repeated the process of lowering Scott and abseiling down to him for 5-6 ropelengths, reaching easy-angled snow above Camp 2 around midday. It took another two hours for Ben to ferry their two packs and Scott down to Camp 2. There, at 2pm as scheduled, Ben called Rob and Andrei on the two-way radio. Near camp 5-1, Andrei heard Ben around 20 times on the radio between 2pm and 3:10pm, but due to a faulty radio (which had been in Scott's pack when he fell), Ben could not hear Andrei's replies. Although Scott's condition seemed to be stable, Ben felt that it would difficult and unsafe for the two to continue their descent below Camp 2.

At approximately 2:40pm Ben activated the emergency locator beacon. Andrei and Rob learned about this activation around 3:15pm via a text on the satellite phone from New Zealand. With no radio contact with the upper mountain, their only option was to climb to Camp 2 in order to ascertain

the situation. (Andrei had only been able to gather that Ben was at Camp 2; Andrei and Rob did not know about Scott's fall or if Scott and Ben were together.) They advised family in New Zealand and Base Camp staff of their plan, and left BC around 5:45pm that afternoon.

- 6 May: Rob and Andrei arrived at Camp 2 at 3am and learned what had happened to Scott and Ben. There, they used the satellite phone to initiate a helicopter evacuation, and called a medical adviser in New Zealand. The helicopter arrived around 9:30am taking both Scott and Ben to Kathmandu. Exhausted, Andrei and Rob spent one more night at Camp 2.
- 7 May: Rob and Andrei packed up all equipment from Camp 2 and returned to Base Camp.



Scott, seriously concussed, at ~6,350m after the first day of lowering.

Second attempt

- 8 May: Andrei and Rob took stock of their available time and resources. They had around six days left before needing to depart BC, and limited technical climbing gear (a large quantity had left with the helicopter). The route Scott and Ben took was too technical for the remaining equipment, but a longer route via the 6,350m col at the base of the East Ridge seemed feasible. In the afternoon they spoke to Ben and learned that Scott's condition was improving. Their weather contact in New Zealand also advised that the forecast was good for the next four days.
- 9 May: Rob and Andrei set off for Camp 1 with six days' food. Though the satellite phone was out of credit, they had made arrangements to have it topped up that night. (Sundaray was sent down-valley to Ghunsa to call our agent with the satellite phone there.)



The upper Ramtang Neve and lower East Ridge of Anidesha Chuli from the 5-7 Arête. The route attempted by Scott and Ben follows broken snow slopes towards the East Ridge below the centre of the cloud. An alternative route, which Rob and Andrei hoped to attempt, crossed to the far side of the neve to gain the base of the East Ridge at the 6,350m col, near the centre of the photo.

- 10 May: The satellite phone credit still had not been received. After waiting a full day, it became clear that the plan put in place to top up the phone had failed. With the beacon used, and the 2-way radios not working, this phone was their sole form of communication if assistance was needed on the mountain, and for informing others that a second attempt was underway. Due to this, and in light of the deep concern of friends and family resulting from Scott's accident, and increased media attention, the pair acknowledged that this second attempt, and the expedition, was over.
- 11 May: Andrei and Rob ascended to the 5-7 arête one last time and constructed a small shrine consisting of a New Zealand and Nepalese flag and some Buddhist prayer flags. They said goodbye to Anidesha Chuli and descended to BC, ferrying loads from Camp 1 to Camp 5-1.

- 12 May: Andrei, Rob, and Sundaray ferried the final loads from Camp 5-1 to BC. In the afternoon, the satellite phone was charging at Base Camp (still without credit) when Dawa Lama called it – the first outside contact for almost four days. He said that he had received our request for a top-up on 9 May, and claimed that he or one of his staff processed this. For some reason, that top up did not succeed. At our request, Dawa processed another top up after the 12 May phone call, which succeeded. We then contacted our primary contacts in New Zealand, advising that we were ok and that the reason we had been incommunicado was simply a lack of credit.
- 13 May: Andrei and Rob departed BC one day ahead of the support crew and porters, and stayed that night in Kambachen.
- 14 May: Andrei and Rob trekked up the Jannu Valley and visited Jannu Base Camp. This area provided views of the south aspect of Anidesha Chuli, and across the valley, the impressive unclimbed twin-peaks of Phole and Sobithongje, somewhat dwarfed by the immense north face of Jannu. The pair discussed how pleasant and hospitable the Jannu Valley is compared to the Ramtang Valley, before returning down valley to Ghunsa. The porters arrived in Ghunsa at 8:30pm, having left Anidesha Chuli BC that day.
- 15 May: Rest day in Ghunsa, waiting for Taplejung porters to arrive. Flights out of Taplejung (Suketar) to Kathmandu were arranged for 19 May. During this day it became apparent that eleven out of thirteen Ghunsa porters from the day before were snow-blind from having spent most of the day walking through fresh snow in bright sunshine without sunglasses.
- 16-18 May: Andrei, Rob, Nima Bhote, and Ang Nima trekked for three days to Taplejung with enough time to get to the Suketar airstrip for the flight to Kathmandu on 19 May, but learned that their flight had been cancelled due to the plane crashing elsewhere. The porters also arrived in Taplejung on 18 May and were paid off by Nima Bhote.
- 19-20 May: The remaining transport option for the team was the public bus. The two bus rides took 30 hours in total and were significantly less comfortable than the private buses used for the outbound journey. The team arrived back in Kathmandu on the afternoon of 20 May.
- 21-23 May: Back in Kathmandu both Rob and Andrei suffered a short bout of gastroenteritis. They visited the Ministry of Tourism to complete the expedition paperwork, attended a social gathering at the American Embassy as a guest of the New Zealand Honorary Consul, Lisa Choegyal, and visited Liz Hawley to complete documentation of the expedition for the Himalayan Database.
- 24 May: Rob and Andrei departed Nepal.

Aftermath

Scott's recovery

During Scott's fall he suffered an impact or impacts to the left side of his head and body. His helmet was badly cracked on the left side, and he suffered minor abrasions on the left side of his face and a small puncture wound (likely from his ice axe) near his left clavicle. His right crampon snapped in half during the fall, but curiously he suffered no injury to either leg. However, he was very unstable on his feet during the descent to Camp 2 and required regular assistance from Ben. In the 43 hours between the accident and the helicopter pick-up, Scott's confused/unpredictable mental state did not notably improve, nor deteriorate – i.e. his condition seemed stable. Following medical advice received via satellite phone while waiting for the helicopter, Scott was given dexomethasone and paracetamol.

The helicopter journey to Vayodha hospital in Kathmandu took around three hours. There, Scott was subjected to a CAT scan and other tests. These tests indicated moderate swelling/bruising to his brain. His behaviour was described as demonstrating "altered sensorium and delirium". The tests and behavioural observations indicated Scott had suffered severe concussion, and possibly high-altitude cerebral edema (HACE), although the latter seems interesting due our conservative acclimatisation and Scott's good condition prior to the accident. He was closely monitored for six days, and his condition improved sufficiently for him to be discharged on 14 May.

Ben and Scott departed Nepal on 16 May on a flight covered by travel insurance. Arriving at Christchurch International Airport on the morning of 17 May, the pair were greeted by friends and media. Scott immediately visited Christchurch Hospital, and a limited check-up indicated no major health concerns. Many people commented that Scott seemed normal in person, or on the phone, but those who knew him well and knew the accuracy of his statements understood that his mental condition was still somewhat abnormal.

Scott has commented himself that he was a little bit unstable on his feet during this time. Over the following six weeks however, Scott's mental and physical condition returned to normal, and he started to recall details about the expedition that he had previously forgotten. He can now recall events right up to the accident, but not the accident itself. Six weeks after the accident, Scott returned to work as a glacier guide for Fox Glaciers, and also re-commenced climbing. He now seems fully recovered both mentally and physically.

Media attention

In the months prior to departure from New Zealand, a website dedicated to the expedition was set up: www.whitewave2013.tumblr.com. This included background information about the expedition, the mountain, the team, the plan, and a section for expedition progress updates. After the team commenced the approach trek (with no internet access), Jo Mason (Rob's sister) posted website updates based on text communications received from the team's satellite phone and the InReach.

The expedition first received media attention when the Sport New Zealand Hillary Expedition 2013 grant recipients were announced in November 2012. TVNZ interviewed Rob and Andrei and ran a story on the One News sport segment soon after the announcement. The Press (Christchurch) interviewed Andrei and Rob and ran a story on the main sports page on 21 December 2012. Radio New Zealand National also broadcast an interview with Ben prior to the expedition departure date. In Nepal, Rob was interviewed live on National Radio midway through the bus journey to Taplejung.

Scott's accident, rescue and evacuation generated significant media attention in New Zealand. Ben was interviewed by various New Zealand television and print media when he and Scott arrived in

Kathmandu, and they were both interviewed by television and print media on their arrival back in New Zealand. Graham Frost (Rob's father) and Ben were both interviewed by Radio NZ National about the accident. The media generally put a positive spin on the accident, choosing to focus on Ben's heroic rescue rather than the dangers of mountaineering.

The expedition has also been documented in The Climber magazine (a New Zealand Alpine Club publication).

Presentations

To date the following presentations about the expedition have been undertaken in 2013:

- 21 June: Fox Glacier Guides, Fox Glacier, Westland; Scott Blackford Scheele
- July: Holmes Consulting Group, Christchurch; Ben Dare
- 18 August: Mixed and Ice Festival, Queenstown; Rob Frost
- 9 September: NZAC Section Meeting, Wellington; Andrei van Dusschoten
- 9 September: NZAC Section Meeting, Auckland; Ben Dare and Rob Frost
- 12 September: NZAC Section Meeting, Christchurch; Andrei van Dusschoten and Rob Frost
- 19 September: NZAC Section Meeting, Timaru; Rob Frost
- 25 September: Tonkin and Taylor, Christchurch; Rob Frost

Upcoming presentations:

- November: Riley Consultants, Christchurch; Andrei van Dusschoten
- 20 November: The World Outdoors Summit, Rotorua; Ben Dare and Scott Blackford Scheele

Discussion

This section includes comments on decisions made during the expedition, logistical considerations, and observations on equipment. Recommendations are provided for those planning similar expeditions.

Route selection

Our choice of route needs some explanation (refer to map on page 4 and photo on page 20). The route we had originally planned to take involved climbing up the true right of the Ramtang Glacier and crossing the neve underneath Kambachen, to gain base of the East Ridge at the 6,350m col. However, when we first obtained a view of Kambachen from the lower Ramtang Valley, we were unimpressed by the 2km long band of enormous icecliffs looming above our proposed route, so we switched our focus to finding a route up the true left of the icefall, and potentially climbing the North Ridge.

Our eventual route through the icefall led us onto the true left side of the upper neve. From there, we could see that access to the nearby North Ridge would be either very difficult (due to 300m high rock cliffs) or very dangerous (due to a complicated network of icecliffs). So we compared two routes to gain the East Ridge: (a) the route across the crevassed neve to the seemingly distant 6,350m col, and (b) a short, unbroken approach to a series of snow shelves linked with short ice steps, leading to a level section of the ridge. The latter route was obviously steeper than the route to the col, but was much closer and still appeared to offer a technically straightforward route, so we chose option (b).

In hindsight, we probably dismissed option (a) too quickly. The prevailing winds were loading the Ramtang Face of the mountain with snow, so the avalanche risk was higher on the snow shelves of option (b). It is also unlikely that option (a) involved much technical climbing to reach the point where the two routes would converge – we should have realised that this would be worth spending some time navigating a route through the crevasses to get to the 6,350m col. We underestimated the steepness of option (b); Scott and Ben found themselves on terrain on average 10° steeper than anticipated.

In summary, by selecting option (b), we reduced the distance of travel across crevasse-ridden neve, but we significantly increased the length of technical climbing and heightened the avalanche risk. In future, we believe the best route would be up the true left of the Ramtang Icefall onto the 5-7 arete, across the neve to the 6,350m col, then up the East Ridge to the summit. If icefall conditions are very broken, it could be necessary to take the less-broken true-right of the icefall, but this route passes beneath the intimidating icecliffs of Kambachen.

Weather

During the approach (13-20 April), the weather was generally dry with afternoon showers every two or three days. In the Ramtang Valley and on the mountain (21 April – 13 May), we usually experienced clear mornings, significant cloud build-up between 10am and 2pm, afternoon/evening precipitation, and finally a clearance after dark. Very few days were fine and clear from dawn to dusk. The most notable snow events were 20 April (~20cm at 4,600m), 3 May (~30cm at 6,000m), and 13 May (~25cm at 4,600m).

Winds were generally light, with ridges and exposed areas on the upper mountain experiencing 40-50km/hr predominantly westerly winds. Temperatures at Base Camp (4,800m) were slightly below freezing at night, and around 5°C during the day (in calm, sunny conditions, this could be quite pleasant). On the upper mountain, temperatures were far more extreme. At Camp 2 (6,000m), nights were -15 to -10°C; during the day in still, sunny conditions, the temperature sometimes reached 40°C.

Tactics

Overall we were very happy with our decision to schedule our time on the mountain from late April to early May. During our first week in the Ramtang Icefall, crevasses were well filled and access was straightforward. Within three weeks, most surface snow had melted away, dramatically revealing large areas of ice, moraine, and crevasses. If our expedition had been two weeks later, access would have been very difficult; two weeks earlier and temperatures would have been colder.

There were no instances of notable altitude-related illness in any team members, although most of us experienced mild headaches at times after spending time at a new altitude. Our blood oxygen saturation was usually 80% to 85% whilst acclimatising to new altitudes; Rob and Andrei attained over 90% at Base Camp (4,800m) after three weeks in the area, and 97% in Ghunsa (3,450m) during the trek out.

After establishing Camp 2, two nights were spent there to acclimatise. That was deemed to be sufficiently long enough for snow conditions to stabilise. In hindsight, waiting an additional 24 hours may have been wiser.

Photos of the mountain above Camp 2 taken by Andrei two days after the accident show a significant crown-wall feature at the approximate location where Scott fell, 50-100m below the crest of the East Ridge. This indicates that Scott's fall likely resulted from an avalanche, which either struck, or was triggered by Scott.

No runners were placed on the 'fall-pitch.' Scott recalls thinking that a runner would have been slow to construct, increasing the length of time he and Ben were exposed to danger, and of dubious quality. This was not an obvious mistake.

The method by which Ben lowered Scott (lowering Scott on both ropes, and then descending the ropes himself) was effective and safe, but the process may have been quicker if Ben was confident abseiling with Scott connected to him. That is something all of us should have practiced at some point prior to the expedition.

We were lucky that the terrain was conducive to allow Ben to lower Scott, and to allow a straightforward helicopter rescue. Such conditions cannot usually be relied on.

Logistics

The continuous 28-hour bus journey at the beginning of the expedition left most of the team feeling unwell during a night Taplejung, and very tired at the beginning of the trek. In hindsight, we believe it would be worth taking an additional day to make the journey, with a night spent en route in Birtamod.

We should have discussed with our agent our exact proposed Base Camp location, why it had to be there, and the anticipated terrain to reach it. This may have avoided subsequent delays when our staff suggested a lower Base Camp, as yaks were not able to travel up the Ramtang Valley.

We've learned that most expeditions will experience delays due to weather, health, or in our case logistical and cultural factors. Fortunately our itinerary allow enough 'float' for this delay.

Not having guaranteed 24 hour communication with our agent was an oversight. When we needed to coordinate Scott's rescue, our agent was in the Gokyo Valley near Everest with intermittent phone coverage, and could not be reached. His backup contact in Kathmandu could not be contacted until late morning. As things played out, without help from Lisa Choegyal (Honorary NZ Consul in Kathmandu), the evacuation may have been delayed up to 24 hours.

If we needed to top-up the phone credit, we had to contact our agent Dawa Lama in Kathmandu whilst we still had enough credit, then he would go online to perform the top-up. We should have arranged to have the capability to top up the satellite phone ourselves. That would have saved much anguish and wasted time and effort during the second attempt, when Andrei and Rob were without phone credit for three days when they desperately needed to contact the outside world.

We failed to include team members' passport numbers in the information given to our emergency contacts. That would have made coordination of the evacuation more streamlined.

Most of the above points were either unforeseeable or not the fault of DHA. The services provided by DHA to the NZ Anidesha Chuli Expedition 2013 were overall very good, and we strongly recommend DHA for anybody organising an expedition to eastern Nepal.

Communications

The DeLorme InReach was capable of sending – via SMS or email – a short text message together with a link to our present location. This was well utilised during our approach trek and was followed closely by a large group of people. The InReach was not taken above Base Camp due to weight restrictions, as it could only be used with an iPad. Curiously, and frustratingly, the InReach was unable to send messages at the time Andrei and Rob were trying to request a satellite phone top up. We don't know why.

Prior to running out of credit, the satellite phone proved vital for the emergency evacuation. It also allowed cheap and reliable text contact with the outside world. In this way, daily forecasts were provided to the team from a weather-watching contact in New Zealand.

The Yaesu 2-way radios worked well, but failed at a critical time after the accident. This failure was likely caused by impacts to one radio during Scott's fall. We learned (too late) that it's always worth speaking into the radios when trying to convey an important message, in case somebody can hear you. If Ben had known that Andrei could hear him during the scheduled call on 5 May, Andrei and Rob would have known immediately that a helicopter was required at Camp 2 before climbing there themselves.

The PLB was easy to use and provided an essential backup to the radios, but despite being GPS-enabled, it gave a location approximately 10km away from its actual location. There remained a very large element of mystery about what had actually happened until Rob and Andrei reached Camp 2. From that point, the incorrect location was not critical because we also had the satellite phone to direct rescuers. It was frustrating, however, as a stationary location was the main reason Ben had delayed activation of the PLB.

Making sure each team had two forms of communication – (1) a radio, and (2) the PLB or satellite phone – proved its worth. In future, we would consider taking a second satellite phone instead of a PLB. A sat phone would have enabled Ben to make contact immediately after Scott's fall.

Equipment

The 3-person Ozark tents provided by DHA proved to be roomy, solidly constructed and well-designed, with sturdy floors, decent headspace for sitting up, large pockets and large vestibules. We used at least one at all camps, and consequently used our lighter mountain tents much less than expected. It was very useful to have tents permanently pitched at each camp for storage of food and equipment, and minimised the need to pitch, collapse and carry tents.

The Black Diamond Firstlight tent leaked spindrift when subjected to snowfall combined with moderate winds. Ben awoke after the first night at Camp 2 coated with 1cm of powder inside the tent, despite the

doors and vents being closed. The only explanation we can think of for this is that spindrift entered through the seams, which we hadn't sealed as we thought that was only required for use in the rain.

Other equipment notes:

- An impressive range of mountaineering equipment can be purchased in Thamel. Legitimate brands can be found at specialist shops, which charge similar prices to New Zealand retail stores. Locally made clothing, sleeping bags, and non-critical equipment is very cheap and is perfectly adequate for a single expedition. (Sleeping bags purchased in Nepal are still getting regular use.)
- Around 100 pieces of bamboo were purchased in Ghunsa during the approach. The tops were fixed with small flags of blue duct tape and red reflective tape and were used as wands to mark the route up the ice fall and across the neve. They proved to be very useful when travelling in misty or dark conditions.
- Our MSR Reactor stove proved to be a very effective snow-melting and water-boiling workhorse at all camps, supplemented by Jetboils which are less efficient but more stable for brewing inside the tent.
- The fabric snow anchors for the tents worked very well. The tents were anchored using a combination of these, v-threads, and buried snow-filled stuff sacks.
- Snow stakes were critical for survival of both Scott and Ben. Without a solid anchor, one or both is unlikely to have survived an avalanche. Ice screws were not suitable for the snow conditions.
- Pee bottles were highly prized by each member. We recommend 1-litre capacity, and a wide mouth.
- DHA provided a GoalZero Extreme 350 solar power pack for use at base camp. This was very effective for charging all items except the laptop, which drained it very quickly. When in heavy use (often), there was sometimes not enough charge for evening lighting. Teams should consider more substantial options if available.
- The LPG heater did not work. This was one full porter load, so cost US\$150 to transport to and from base camp. We suggest checking that support staff are trained in its operation and repair, and have used it successfully at altitude in the past.
- Insist porters are provided with eye protection to avoid snowblindness. Teams should consider buying enough cheap sunglasses to gift to their porters if necessary in this situation.
- A Boombox speaker attached from MP3 players to various resonant objects (such as tables and vacuum flasks) provided endless hours of music on the trek and at Base Camp.

Filming/photography

The GoPro was used for action footage during all stages of the expedition, usually with a headstrap mount. We preferred this to the adhesive helmet mounts as it could be easily transferred between individuals, with or without helmets. The chest mount was only used for one day during the trek. The suction cup mount was excellent for obtaining interesting footage during the bus journey. Due to using a waterproof casing, the GoPro was unable to pick up any usable sound.

Several long segments of video (up to 20 mins) were recorded on the GoPro, which made the selection of appropriate 'clips' very time-consuming when creating a film about the expedition. In future, we will be more cognisant of when something 'interesting' can be filmed and record shorter video segments.

Clothing

We were all very happy with the clothing selection we used and would take the same again. We have a couple of points that may assist others in the future:

- On the final stages of the approach trek, those who brought lightweight waterproof trousers found them to be very useful during inclement weather.
- Approach shoes were used all the way to 5,100m. Lightweight, low-ankle shoes were generally preferred by most, but resulted in a lack of protection when travelling over moraine. Due to rapid melting of the glacier surface during daylight hours, slightly heavier, but warmer and more waterproof footwear proved to be the most comfortable on the glacier.
- Good nose protection was critical on and above the glacier. One team member wore fabric nose protectors (made by Beko) fixed to his sunglasses and goggles, which worked extremely well.

Nearby unclimbed objectives

There are more than 20 unclimbed peaks in the Kangchenjunga region on the Nepalese Government's list of unclimbed peaks. The unclimbed multi-summit massif of Phole-Sobithongje (6,670m), visible from the Jannu Valley, most impressed the team. The reasonably steep Ramtang Glacier aspect of Ramtang (6,700m) also appears to be unclimbed.

Another team of New Zealand mountaineers, after hearing our stories and seeing our photos, consider Anidesha Chuli to be a worthwhile objective, and have planned an attempt via the Ramtang Valley for April-May 2014. We look forward to following their progress.



Phole-Sobithongje (6,670m - unclimbed) viewed from the village of Kambachen.

Acknowledgements

This expedition would not have been possible were it not for the generosity of organisations, individuals and companies. Here is a list of benefactors, in no particular order of importance, who have helped us along the way:

New Zealand Alpine Club

The NZAC gave us our first grant through their Expedition Fund in February 2012. This provided proof that we were serious about the expedition and that our peers were confident in our abilities and plans.

Sport New Zealand

Sport NZ awarded our expedition a very generous grant as part of the Hillary Expeditions programme. This is the grant that effectively made the trip possible. We're still excited to be involved in this scheme, with aims to encourage young New Zealanders to pursue outdoor recreation, show that New Zealand has produced world-class mountaineers for a long time, and to show how the mountains in our own backyard provided the perfect – and enjoyable – training ground for this expedition.

Mount Everest Foundation

The MEF provided another huge boost of confidence and financial support when they awarded us a generous grant in December 2012. Without this final grant our equipment and food resources would have been very limited due to financial constraints. We feel honoured to be recognised as a worthy expedition by the MEF, and in return we hope that the information we can provide about Anidesha Chuli and the surrounding area inspires more well-informed expeditions to this wonderful part of the world.

Fox Glacier Guiding

FGG provided a generous Staff Scholarship to assist Scott with his private finances for the expedition. Their assistance was highly appreciated – Scott had the best gear in the team!

Norman Hardie

We'd like to sincerely thank Norm for the financial support and big moral boost his donation provided. Again, we feel honoured to be recognised by such an experienced and respected mountaineer.

iClimb

Glenn Pennycook provided a large amount of gear to Ben for the expedition, and gave us an excellent price on a top notch pair of Simond 8.6mm ropes.

Graham and Glenis Frost

Rob's parents were the primary emergency contacts for the expedition, and they surely had their work cut out for them! When news came through that the beacon had been activated, they dropped everything and spent hours communicating with us, the NZ Rescue Coordination Centre, the NZ Consulate in Nepal, the helicopter company, NZAC, our insurance company, and next of kin. They also came to our rescue the day before we departed for the expedition by donating a brand new laptop! (Ours had just begun to malfunction.)

Lisa Choegyal

Lisa is the Honorary Consul for New Zealand in Kathmandu. When we needed assistance organising an evacuation for Scott (in the early hours of the morning), Lisa's experience and contacts were invaluable for getting a helicopter company engaged promptly. (And Scott's not even a New Zealander!)

Jo Mason

Rob's sister Jo was our primary contact for regular communication during the expedition. She had her phone next to her 24hrs a day in case we called, and was the source of all information for everybody wanting to follow our progress through her excellent work updating our website. When things started getting 'interesting' on the mountain, Jo had to carefully word every post, retaining accuracy whilst not causing confusion or shock.

Tony Clarke

Tony enthusiastically volunteered to be our primary weather contact, and sent us text messages every single day we were above Ghunsa. We can't overemphasise how useful this information was to us.

Our partners

Claire, Jude, Caroline, and June – you had to put up with 20 months of expedition preparation, the stress of an accident during the expedition, and partners with no spare time during preparation of post-expedition presentations and reports. Throughout it all you were supportive and encouraging. You rock.



Report prepared by Rob Frost and Andrei van Dusschoten, September-October 2013.

The compilers of this report and the members of the expedition agree that all or part of it may be copied for the purposes of private research.

Further information, photos, and videos will gradually be added to our website over the coming months:

www.whitewave2013.tumblr.com

Appendices:

Appendix A – Expedition Finances

Appendix B – Contract with Dream Himalaya Adventures

Appendix C – List of Expedition Medical Equipment

EXPEDITION FINANCES

Note: This financial breakdown does not include:

- Personal clothing and equipment, ranging from \$2,000 to \$8,000 per team member
- Energy food for the mountain, which was purchased separately due to personal preferences
- Vaccinations

It also does not include items for which we have received travel insurance reimbursement, including the helicopter evacuation, hospital expenses, changes to travel arrangements, and equipment damaged during bus travel. (The evacuation involved approximately 4.5 hrs of flight time and cost US\$18,000. We do not know what the hospital charges were.)

INCOME

Donations		\$ 200.00
Donation received 28 February 2013	\$ 200.00	
Grants		\$ 27,403.09
New Zealand Alpine Club Expedition Fund	\$ 2,400.00	
Mount Everest Foundation (£2,400)	\$ 3,850.35	
Mount Everest Foundation (£600)	\$ 1,152.74	
Sport New Zealand Hillary Expedition Grant	\$ 20,000.00	
Miscellaneous		\$ 292.00
Reimbursement for Auckland flights from SportNZ	\$ 292.00	
Team Member Contributions		\$ 16,161.00
TOTAL INCOME		\$ 44,056.09

EXPENDITURE

Flights		\$ 7,233.00
International airfares	\$ 6,790.00	
Auckland flights (incl airport parking)	\$ 443.00	
Logistical Services from Dream Himalaya Adventures		\$ 21,883.66
DHA invoices	\$ 21,663.66	
Reimbursement to Rob for discount (from 2011 trek)	\$ 120.00	
International money transfer fees	\$ 100.00	
Travel Insurance (arranged through NZAC)		\$ 2,380.00
Team equipment		\$ 2,201.68
First Light tent	\$ 395.00	
Bothy bag	\$ 215.00	
Ropes x2	\$ 320.00	
Dry bags	\$ 59.00	
Repair kit	\$ 225.92	
Extra jetboil pot	\$ 63.50	
Pitons	\$ 85.50	
Ropes x2 (from Kathmandu)	\$ 525.00	
3mm, 5mm, 6mm & 7mm Cord (from Kathmandu)	\$ 129.36	
Snow stakes (from Kathmandu)	\$ 22.40	
Shovels (from Kathmandu)	\$ 140.00	
bamboo wands (from Ghunsa)	\$ 21.00	
Camera, filming, & electronics		\$ 1,764.80
GoPro, plus batteries, SD cards, mounts, and bags	\$ 958.40	
Laptop	\$ 377.00	
Portable hard drive	\$ 366.00	
Rechargeable batteries	\$ 63.40	
Medical supplies		\$ 480.17
Medical supplies from Dr R. D. Price	\$ 200.00	
Prescription medicines and first aid kit supplies	\$ 237.17	
Pulse oximeter	\$ 43.00	
Food (excluding meals purchased with cash on trek)		\$ 2,287.89
Team meals in NZ (pre-departure)	\$ 517.30	
Backcountry meals from NZ	\$ 879.40	
Groceries in Kathmandu	\$ 891.19	
Gifts and Tips		\$ 1,066.65
Gift for Graham & Glenis Frost	\$ 175.45	
Gifts for staff & porters	\$ 176.40	
Porter Tips	\$ 291.60	
Base Camp Staff Tips	\$ 423.20	
Undocumented cash expenses		\$ 3,192.00
Meals in Kathmandu		
Meals during bus journeys		
Meals during trek		
Accomm in guesthouses during trek		
Laundry		
Taxis		
Internet access		
Phone calls		
Other Miscellaneous		\$ 1,566.24
Travel insurance excesses	\$ 750.00	
Account fees	\$ 3.94	
AMT fees	\$ 60.00	
Meals in Dubai (Rob & Andrei)	\$ 209.18	
Shipping gear to NZ (due to Scott & Ben's evacuation)	\$ 543.12	
TOTAL EXPENDITURE		\$ 44,056.09

New Zealand Anidesha Chuli Expedition 2013 - Expedition Report
Appendix B - Contract with Dream Himalaya Adventures

CONTRACT
For the provision of Logistical Services
to the Mountaineering Expedition to Mt Anidesha Chuli / White Wave (6,960m)
April-May 2013

This document will constitute a contract between:

- 1) Dream Himalaya Adventures Pvt. Ltd, Nepal (first party); and
- 2) New Zealand Anidesha Chuli Expedition 2013 team (second party)

Both parties agree to the following terms & conditions to run the above-mentioned expedition:

(A) Names of members in Expedition Team

- 1) Rob Frost (team leader)
 - 2) Ben Dare
 - 3) Andrei van Dusschoten
 - 4) Scott Blackford Scheele
- Total Size of team: FOUR members

(B) Approximate Expedition Itinerary:

8 April 2013	team members arrive in Kathmandu (arrive 6:20pm on flight FZ 575)
9-10 April (2 days)	in Kathmandu
11 April 2013	“Expedition Commencement Date”
11-12 April (2 days)	travel to Taplejung by private bus (with one night en route)
13-23 April (11 days)	trek to Anidesha Chuli Base Camp (ACBC) in Ramtang Valley
24 April-13 May (20 days)	at ACBC or above
14-19 May (6 days)	trek to Taplejung
20-21 May (2 days)	travel to Kathmandu by local bus (with one night en route)
22-23 May (2 days)	in Kathmandu
24 May 2013	team members depart Kathmandu (depart at 7:05pm on flight FZ 576)

(C) The following Logistical Services will be provided by the first party:

- ✓ Expedition Cook and his wages, insurance, food, accommodation etc.
- ✓ Required number of porter or yaks to Base Camp & Return
- ✓ All food (B/L/D) during staying at Base Camp
- ✓ Hot drinks (tea, Coffee, chocolate, Juice etc.) at Base Camp
- ✓ Fuel & gas for cooking purpose at base camp
- ✓ All necessary camping and kitchen gears while staying at Base Camp
- ✓ Necessary tents at Base Camp (Dinning, Kitchen, Toilet etc.)
- ✓ Base camp members tent (twin sharing basis)
- ✓ Solar Panel for recharging & power supply at Base Camp
- ✓ Staff purpose First Aid medical kit
- ✓ Oxygen cylinder and mask set for emergency medical purposes at Base Camp
- ✓ Hire of a satellite phone for the duration of the expedition
- ✓ Hire of two walkie-talkie sets (total two units) for the duration of the expedition
- ✓ Insurance of local team members and Liaison officer.
- ✓ All food and accommodation for all expedition staff, porters and Liaison officer for full duration of expedition

New Zealand Anidesha Chuli Expedition 2013 - Expedition Report

Appendix B - Contract with Dream Himalaya Adventures

- ✓ All members, staff & expedition loads to TPJ by PRIVATE BUS
- ✓ All members, staff & expedition loads to KTM from TPJ by Local BUS
- ✓ Porter cost to & from Base Camp for member personal climbing gears & mountain equipment (50kg per member)
- ✓ Porter cost includes the removal of all expedition rubbish to a collection centre in Taplejung
- ✓ All airport/hotel transfers by private vehicles
- ✓ Complimentary celebration meal after expedition
- ✓ Arrangement of necessary official documents, and handling fee etc.

The following Logistical Services will NOT be provided by the first party:

- Medical and personal high risk insurance,
- Visa/visa extension fees. Major meals in Kathmandu
- Personal climbing gears,
- KTM – TPJ – Base Camp – TPJ - KTM (En- route trek to Base Camp & return) food and accommodation for expedition members
- High altitude tents, high altitude foods,
- Climbing hard ware gears,
- Climbing support Sherpas
- Cost of personal nature and tips.
- Cost of emergency evacuation charges.

(D) Cost

Fixed Costs

1. Total Cost of Logistical Services, as outlined in Section C	US\$ 14,240.00 for 4 Pax team
2. Climbing Permit Fee:	US\$ 1,600.00 for 4 Pax team
3. Liaison Officer Fee	US\$ 1,800.00
4. Hotel accommodation at Kathmandu Guest House, 3 nights in garden facing double rooms, BB basis	US\$ 450.00
5. Hotel accommodation at Hotel Ganesh Himal, 3 nights in double rooms	US\$ 150.00
TOTAL	US\$ 18,240.00
(including 20% deposit:	US\$ 3,648.00)

Additional Costs

- | | |
|--|--|
| 6. Additional porters (if more than 50kg per team member)
(one porter per 25kg extra weight) | US\$ 12.00/day per porter |
| 7. Satellite phone calls and SMS messages | US\$ 1.49 per min
US\$ 0.49 per SMS |
| 8. Damaged Equipment: If the satellite phone or walkie-talkie sets are damaged or lost by the second party (excluding wear and tear from normal use of the equipment), the second party will be responsible for repair (if possible) or replacement of that equipment. | |

(E) Payment terms and conditions:

Deposit payment, 20% of the trip cost 120 days ahead from the trip commencement date or earlier
Full and final remaining 80% payment 45 days ahead from the trip commencement date

(F) Contract Date & Validity

Start date of contract: When deposit payment from second party is received by first party
Expiration date of contract: Seven days after second party returns to Kathmandu at end of expedition.

(G) Refund Policy

If the second party cancels expedition prior to the expedition commencement date, they will be liable for all expenses already incurred by the first party.

If the first party cancels the expedition prior to the expedition commencement date, they will give the second party a full refund of all costs paid to the first party up to that date.

(H) Failure to accomplish full expedition itinerary

Due to competence of second party:

The first party will not be responsible for the incompleteness of the expedition due to altitude sickness, accident/injury or due to withdrawal from the expedition by the second party. The full expedition cost as per the original itinerary will still apply. If any new itinerary incurs greater costs than the original itinerary, this will be considered as an extra cost to be paid by the second party.

Natural Calamities or other unavoidable Situation

The first party will not be responsible for the incompleteness of the expedition due to natural calamities, bad weather, heavy snowfall, inaccessible passes, mountain conditions, and other natural mountain events. The full expedition cost as per the original itinerary will still apply.

Due to failure of the Company Management:

If the expedition fails due to mismanagement by the first party, insufficient and/or low quality food, poor equipment quality, and/or inexperienced staff, the first party will be responsible. The conclusion of such cases will be determined through discussion between the first and second parties.

The undersigned do hereby agree to Sections (A) to (H) of the above terms and conditions



First Party:
Dawa Sambu Sherpa (Lama)
Managing Director
Dream Himalaya Adventures

31st Jan 2013
Date

Second Party: RFROST
Rob Frost (Passport # EB363621)
on behalf of
New Zealand Anidesha Chuli Expedition 2013

1st Feb 2013
Date

“End of Contract”

New Zealand Anidesha Chuli Expedition 2013 – Expedition Report
Appendix C – Expedition Medical Kits

4x PERSONAL FIRST AID KITS:

Paracetamol, Promethazine, Miconazole anti-fungal cream, brown leucoplast tape, cough lozenges.

2x MOUNTAIN FIRST AID KITS:

DRUGS	Use/Symptoms	Dose/Treatment/Contraindications
Metronidazole 400mg 15x tabs (1/2 course)	Giardia, acute abdominal & amoebic dysentery	3 tabs/day for 7 days
Azithromycin 500mg 2x tabs	Last resort antibiotic	1 x daily for up to 4 days
Loperamide 2mg 10x tabs	Diarrhoea	2x initially, then 1x after every loose bowel movement (max 4 daily)
Laxsol (??mg) 11x tabs	Constipation	1x every 12-24hrs as required
Losec (Omeprazole) 20mg 15x tabs	Reflux/Indigestion	1 per day as required
Mylanta 200mg 10x tabs	Indigestion	Suck 2 tabs, 3-4x daily as required
Buccastem 3mg 3x tabs	Nausea, vomiting	8-12 hourly, under top lip. Drowsiness. No milk/alcohol.
Promethazine 10mg 10x tabs	Anti-histamine, and to assist sleeping	Anti-histamine: 1-2 tabs, up to 3x daily. Sleeping: 1-2 tabs, 3hrs before sleep
Paracetamol 500mg + Phenylephrine HCl 5mg 5x tabs	Sinus pain relief, decongestant	1-2 tabs up to 4x daily
Codeine Phosphate 15mg 15x tabs	Moderate Pain; diarrhoea; coughing	1-2 every 4-6hrs, max 4 times/day Take with 500mg paracetamol
Tramadol 50mg 9x tabs	Moderate-Strong Pain	1-2 tabs, 2-3 times/day Don't use with head trauma or acute abdominal conditions
Voltaren 50mg 1x suppository	Severe pain or inflammation	1 per day. Rehydrate first.
Celebrex 200mg 5x tabs	Moderate-strong pain (if other tabs not effective)	1 tab with food, max twice daily
Diamox 250mg 70x tabs	AMS prevention AMS relief	125mg 2x daily, or 250g once daily (evenings). 250g twice daily
Dexamethasone 4mg 10x tabs	High Altitude Cerebral Edema (HACE); severe AMS	2 initially, then once every 8hrs. Descent to lower altitude critical.
Nefidipine 10mg 15x tabs	High Altitude Pulmonary Edema (HAPE)	1 tablet 3x daily (every 8 hrs). Descent to lower altitude critical. Lightheadedness
Plendil 2.5mg 13x tabs	With care, to be used to assist circulation	1 tablet daily (lowers blood pressure)
Gastrolyte/Electral 3x sachets	Diarrhoea, dehydration	1-2 sachets with each loose motion (mix each sachet with 200mL water)
Scopoderm 1x patch	Motion sickness	Apply behind ear, 5-6hrs before travel. Remove after travel (max 72hrs). Wash hands after applying. Avoid alcohol.

OTHER

1x pair latex gloves; 5x medi-swabs; Fixomull dressing tape 5cm x 5m; Leukoplast red 2.5cm x 5m, 6x Bandid strips, 2x large Bandid; 2x Flexgrid (6-7cm); 9 steristrips (2 sizes); 1 crepe bandage; 1x compression tube (30cm); light compression tube (50cm); 2 x 10cm square sterile dressings; pencil & waterproof paper.

In one mountain kit: thermometer and 2x medi-swabs.

BASE CAMP FIRST AID KIT (continued)

<p>EYE KIT +Amethocaine (tetracaine hydrochloride) +fluoescein sodium +sterilised water +hypodermic needle +Cotton Buds +Eye dressing</p>	<p>+Eye drop anaesthetic: severe pain; snow-blindness and removing foreign matter +detection of foreign matter or ulcer +Eye wash +scraping foreign matter</p>	<p>+1 x drop as necessary. Lasts for 2 to 4 hrs. +drops as necessary for visual detection</p>
<p>ALLERGY KIT +3 ml syringe +23 G x 1" needle +promethazine anti-histimine vile +1 ml insulin needle +1 ml adrenalin</p>	<p>+NOT for Anaphylaxis. Other-type allergic reaction +for Anaphylaxis</p>	<p>+Insert into outer thigh +insert into outer thigh</p>
<p>SUTURE KIT +Rubber gloves +Skin cleansing swabs +Xylocaine 1% Lignocain injection 5 mL +1 mL insulin needle +tweezers +arterial forceps +Scissors +#11 surgical blade +2 x monofilament and needle, 45 cm, c-14 cutting needle</p>		
<p>AIRWAY + #4 OP airway + 50 mL syringe + skin cleansing swabs + catheter</p>		
<p>RANDOM SYRINGES + 2 x 3 mL syringe + 10 mL syringe + Vasofix needle /valve + plastic needle top lid +Rubber glove finger for air valve + skin cleansing swabs + needle: 1.3 x 30 mm + needle .8mmx 38 mm + 3 x needles: 0.5 mm x 25 mm +rubber bands</p>	<p>+pneumothorax</p>	
<p>WOUND DRESSING +2nd skin moist pad + pre-dressing skin tape + Bactigras pad + large sticking plasters + small sticking plasters + skin cleansing swabs + antiseptic-coated sterile non-stick gauze</p>	<p>+large open wound pre-dressing</p>	