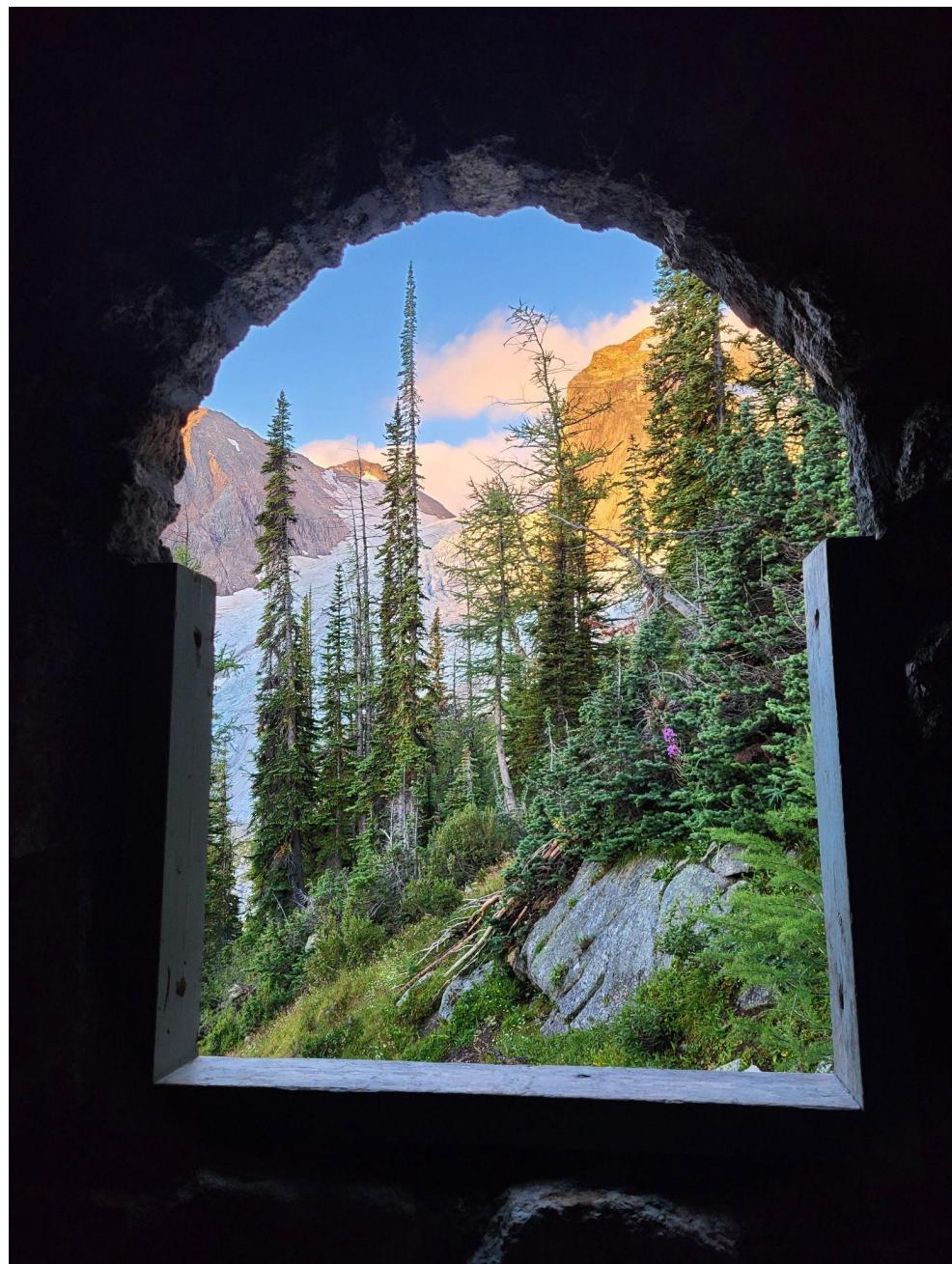


Bugaboos and Canadian Rockies Alpine Expedition 2023

Sponsored by the
Imperial College Expedition Board





'View from the Loo'

Photo taken at the toilet in the Boulder Campsite,
Bugaboos Provincial Park

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Overview and Expedition Goals

Alpinism is often seen as the final milestone in a climber's career, to be a successful alpinist one has to call upon all their experience and knowledge as a climber, often from different climbing disciplines. As such, alpinism is a challenging environment and many view the completion of alpine challenges as some of the best experiences one can have in the world of mountaineering and climbing.

The American Alpine Club recently released their list of the 50 classic climbs of North America, with five routes of moderate difficulty lying in the Bugaboos Provincial Park:

- Pigeon Spire, West Ridge (PD, 5.4);
- Bugaboo Spire, Northeast Ridge (D-, 5.8)
- Bugaboo Spire, Kain Route (AD, 5.6);
- and South Howser Tower, Beckey-Chouinard (TD, 5.10).

The goal of our expedition was to make group ascents of as many of the above routes as possible. Such an objective will allow team members to experience large alpine objectives in a overseas developed alpine arena that is widely considered the Chamonix of North America.



Upper Buggaboo Glacier with Pigeon Spire on the left.

Area

The Canadian Rockies are the Canadian segment of the Rocky Mountains, which is the largest mountain system in North America, stretching from the Yukon territories in North-western Canada to New Mexico in the USA. The Canadian Rockies are mainly contained within British Columbia and Alberta and run northwest southeast, bounded by the Rocky Mountain Trench on the west and the Canadian Prairies to the East. This expansive mountain range has numerous high peaks and due to the Rockies' low tree line and high relief, many mountains have rocky uninterrupted faces consisting of shale and limestone. This unique geology opens many possibilities for stunning alpine climbing lines on these vast faces in a wild and remote setting.

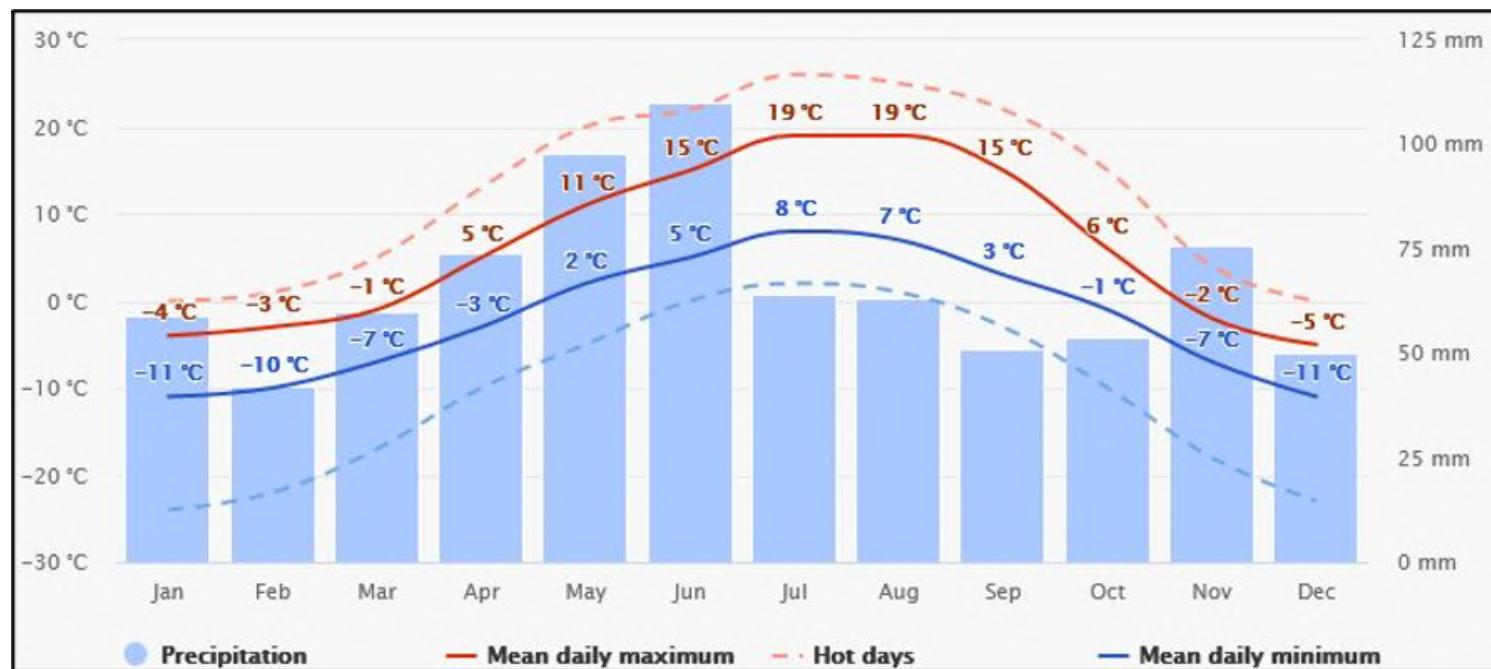
West of the Rocky Mountain Trench lies the Purcell Mountains, and within these mountains lies the Bugaboo Provincial Park, an alpine recreational area consisting of a cluster of high granite spires with four main summits: Bugaboo, Snowpatch and Pigeon Spires and, the Howser Towers, alongside other minor peaks. The Bugaboos provide fine moderate mountaineering objectives within a large granite massif, sharing many similar traits with the better-known Mont Blanc Massif in the Alps.



Bugaboo Spire pictured from the peak of Pigeon Spire

Climate

The subarctic climate in Canada's western mountainous regions is characterized by long, cold winters and short, mild summers. The region experiences high levels of precipitation, mainly as snow, with snow at any time of year being a possibility. Average daily temperatures in winter can drop to below -20°C while in the summer they can reach up to 20°C. Due to its high elevation and proximity to the Pacific Ocean, the Rockies can have highly varied weather patterns, with sudden weather changes being common and rapid in onset.



Above: Monthly average precipitation and temperature for the Bugaboos Provincial Park ~1800m. Source: meteoblue.com

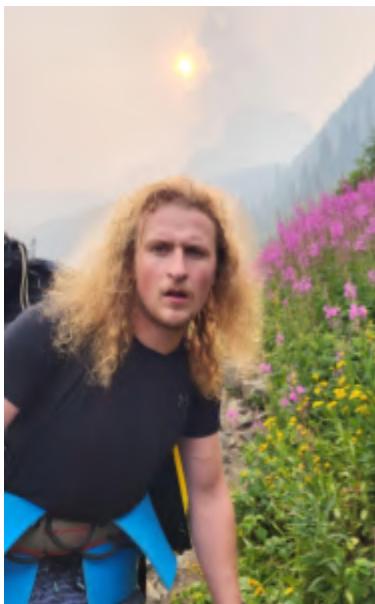
The summer climbing season in the Bugaboos can be particularly varied and volatile, with afternoon snow, hail, and rain being common and normally accompanied by electrical storms due to opposing air masses. Such weather is most common in July and early August, with warmer air from the western valleys rising and condensing as it meets the cooler air to the east, with this effect being compounded due to the lifting of the air mass over the Howser Towers. With such variety in the weather throughout the day, pre-dawn starts for recreational visitors are vital to ensure limited time is spent on high summits if inclement weather rolls in during the afternoon.

Wildlife

Due to western Canada's large open spaces and wild and remote feel, the mountains of British Columbia host a diverse array of wildlife typical of a subarctic climate. Some of the common wildlife species found in the area include:

- Moose: These large, hooved mammals are native to the boreal forests of North America. They are known for their distinctive antlers and can weigh up to 1,500 pounds.
- Mountain goats: These agile creatures are well adapted to the steep terrain of the Bugaboos and can often be seen scaling cliffs and peaks, becoming a familiar site for climbers in the park.
- Marmots: Marmots are large ground squirrels that are commonly seen sunning themselves on rocky outcroppings or meadows.
- Pine Marten: This small, agile predator is native to the northern forests of North America and feeds primarily on small mammals and birds.
- Birds of Prey: Western Canada is home to a variety of birds of prey, including eagles, hawks, and owls, that feed on a variety of prey, from rodents to smaller birds.
- Black bears: These omnivores are commonly seen foraging for food in the forests and meadows of the Bugaboos.
- Brown bears: Also known as grizzlies, these bears are typically lighter in colour and are powerful predators that are to be observed from a safe distance and never approached.
- Porcupines: Typical of lower elevations, porcupines are large, slow-moving rodents that are commonly seen in the park's forests and meadows. They feed primarily on the bark of trees and are known for their distinctive quills, which are used for defence against predators. Special precautions have to be taken against porcupines in this region, not for the individual, but for their vehicle. They are known to chew through brake lines, rubber tires, and insulation due to their craving for salt, which can be found in small quantities in the items mentioned.

We note that our dealings with animals were limited to playing with Mike and Anna's puppy, dealing with marmots eating through our plates and the ongoing situation of Tom's horrendous snoring. We speculate that this last factor (along with our smell) helped keep the bears away.



Piers Heathcote - MRes Bioengineering

Role: Expedition Leader

Age: 25

- Experienced Alpinist (TD+), Trad Climber (E3 6a o/s) and sport climber (7b+, 7a o/s). Proficient Scottish winter and ice climber (40+ routes up to VII, 7, Ice climbing up to WI5, AI5, VI,6)
- Qualified Outdoor Mountaineering instructor
- Experience leading high altitude self-supported expeditions (Parvati Parbat - Pin Parvati Indian Himalayas 2018)
- Extensive European alpine experience, on challenging single day and multi day routes



Tom Stringer – 4th Year Civil Engineering MEng

Role: Expedition Videographer and Journaler

Age: 23

- Adept trad climber leading HVS UK multipitch routes and sport climbing up to 6c.
- Experienced with alpine-style mountaineering techniques, including scrambling and moving together, implementing them on some of the UKs longest climbs.
- Outdoor First Aid qualified.
- Attended the Jonathan Conville Memorial Trust Alpine preparation course this summer and spent July in Chamonix.
- Competent Scottish winter climber.
- Treasurer for Imperial Snowsports 21/22 & 22/23; IC Union Vice Chair for individual sports 22/23

Ben Schuster - BEng Electronic Engineering

Role: Looks like and climbs like a French Alpine Guide

Age: 20



- Experienced Alpinist (ED1), Trad Climber (E4 6a o/s) and sport climber (7c, 7a o/s). All round strong climber.
- Qualified Outdoor Mountaineering instructor
- Experience leading trips for Bangor University Mountaineering Club
- Extensive European alpine experience, on challenging single day and multi day routes

Reuben Cruise - Applied Physics PhD

Role: Expedition Finance Manager

Age: 28

- Extensive alpine climbing experience in the Austrian Alps. Proficient with advanced alpine techniques. Received alpine training through Austrian Alpine Verein.
- Sport climbing up to 6c+
- Received training for the Summer Mountain Leader qualification.
- Outdoor First Aid Certified
- Comprehensive back country and wild camping experience, and experienced mountain trekker partaking in a multitude of demanding multi-day treks.



Nick Koukoulekidis - Physics PhD

Role: Assistant Expedition Leader
Safety and Communications Coordinator

Age: 25

- Proficient alpine climber up to AD+, experience with demanding single day and multi day routes in the French Alps.
- III Scottish winter lead and IV second. Multipitch Trad climbing up to HVS 5a in both the UK and abroad.
- Competent with alpine climbing techniques, alpine climbing experience in both European and North American mountain ranges.
- Expedition planning experience (Crete 2018, Slovenia 2018, Kyrgyzstan 2021) involving logistical and safety planning for month-long mountaineering expeditions.



Elliot Badcock - Mathematics PhD

Role: Logistics Coordinator & Basecamp Chef

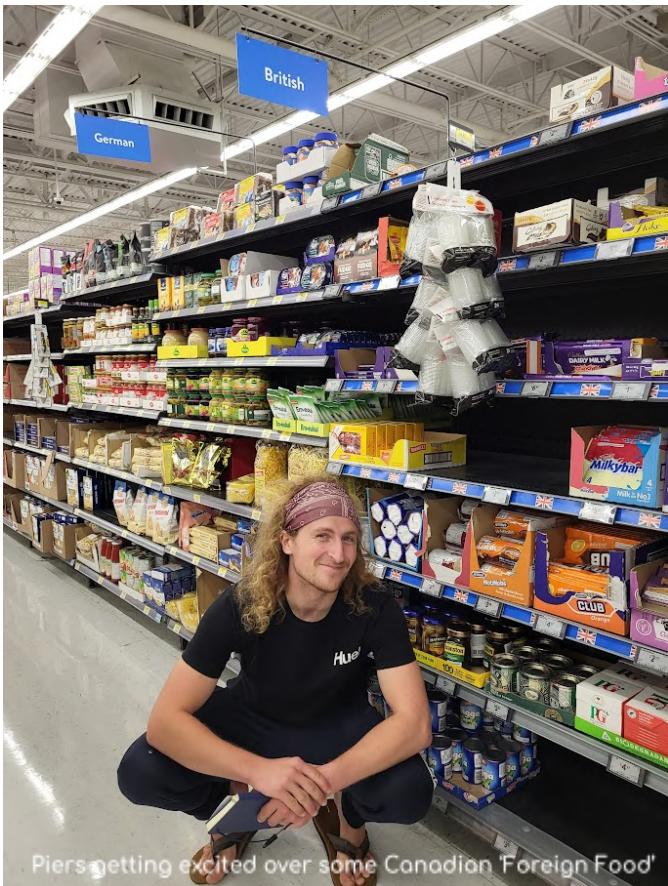
Age: 27

- Experienced UK Trad climber up to E2 5b, including long alpine-style multipitch routes.
- Sport climbing up to 6b+ and proficient Scottish winter climber (III lead, V,7 as second).
- Completing the John Conville Alpine Preparation Course in Chamonix this summer to gain guided experience into maximising safety for alpine climbing.



Arrival to Canada, Plane Delays

On a crisp Wednesday morning, Piers, Tom and Elliot, accompanied by Lil, met at a sleepy Gatwick North Terminal, with the group worried about making the luggage weight limit and Ben's late but eventual arrival. A repeatedly delayed flight led us to pre-noon Weatherspoons to celebrate the start of the Exped and ease preflight nerves for some. Some 13 hours later, we landed in Calagry and were kindly greeted by Mike and his family.



Piers getting excited over some Canadian Foreign Food'

Awaiting Nick's arrival from Germany, we were introduced to Tim Bits (or donut holes) and Iced Capp coffees (Frappuccino's on steroids) from Tim Hortons. After a couple of hours of chatting we grabbed Nick and the team were almost at full strength. After one of the straightest drives some of us had ever taken, we arrived at Mike's house 80 minutes north of Calgary. Unbeknown to us, we would be spending a lot more time than we had initially intended at Mike's as Nick's luggage had not taken the same plane as Nick.



Mike's Basement. Home away from home.

Despite the luggage delays, we cracked on and spent the next few days gathering food and camp supplies, checking and familiarizing ourselves with the gear Mike had kindly lent us, and sorting and organizing items that we would be resupplied with. Nick's baggage became a persistent issue with the airline at a loss as to it's location, we had to return to the airport daily hoping it had been found and had been put on a flight to Calgary. The spirit within the team was high as we were full of psyche but were also itching to get going as we knew bad weather is never far away in the Canadian Rockies, and the forest fires were posing a significant threat to the trip as the Bugaboos were surrounded by them on all sides. All we could do was pray for Nick's luggage to arrive and that no evacuation order was given for the Purcell mountains in Eastern British Columbia.

'The Big Choss' or Mount Yamnuska

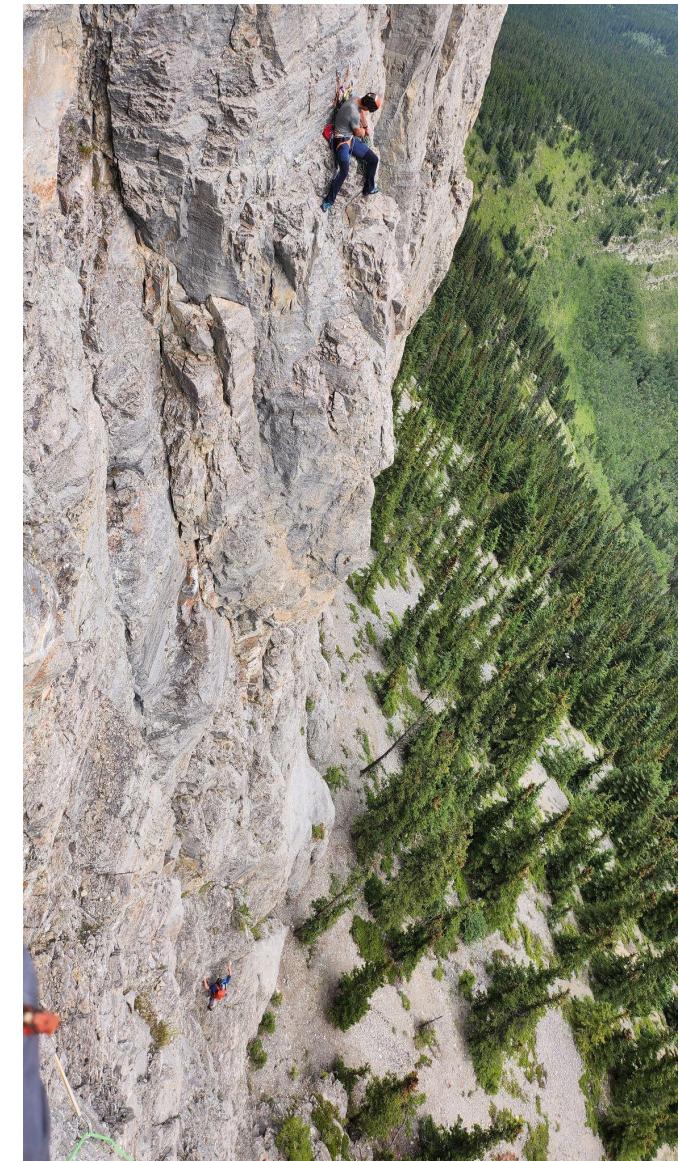
With Thursday turning to Friday and the team growing desperate to do at least some rock climbing, we gave ourselves an ultimatum, leave to travel to the Bugaboos no later than Monday morning, and make sure we did at least some climbing during the weekend to warm up our fingers and our headgame. We hatched a plan to climb on Mount Yamnuska on Saturday.

Yamnuska, or otherwise affectionately known as 'The Big Choss' is a huge mountain with a main face some 400m tall and nearly a mile wide. The size of the face is vast, however, the quantity of high-quality routes was not. We aimed to climb a couple of routes on the main face's Western flank, and armed with our freshly acquired bear spray. Ascending 500m and through the treeline, we were greeted with the reality that the mountains in North America were big, and 90 minutes later we were standing at the bottom of the main face. Our leisurely start meant we could hear other parties on the wall, but it quickly became apparent that our choice of location to climb on the wall was poor as it meant having to skirt under the huge scree field below the face. Quickly deciding on another plan, we chose the much closer and more popular Eastern Flank and two routes Gollun Grooves (5.8, 110m, 3 pitches) and Smeagol (5.9+, 130m, 4 pitches).

With Nick out of time to climb as he had to make the daily pilgrimage to Calgary airport to wait and check for the arrival of his baggage, the group split into two teams, Ben and Piers who would take on Smeagol, and Elliot and Tom would climb Gollun Grooves.

Racked up, keen to climb and having said a few prayers to the forces that be, Ben gingerly commenced climbing the first 5.7 pitch of Smeagol. Ben - normally a talkative person when he climbs - ascended the first pitch in silence. His mindset locked in, we quickly realized his lack of speaking was due to the concentration needed to climb a face where holds could peel off at any moment. Crimps were crumbly, gear was psychological and when we encountered the odd ancient and rusty piton, we breathed a sigh of relief as we had some slightly better gear clipped. On second, Piers was stunned by the quality (or rather lack thereof) of the climbing, with a half-joking exchange at the belay making light of the insecurity felt even as a second, he

Tom and Elliot climbing in Yamnuska - notice the scree field below them.

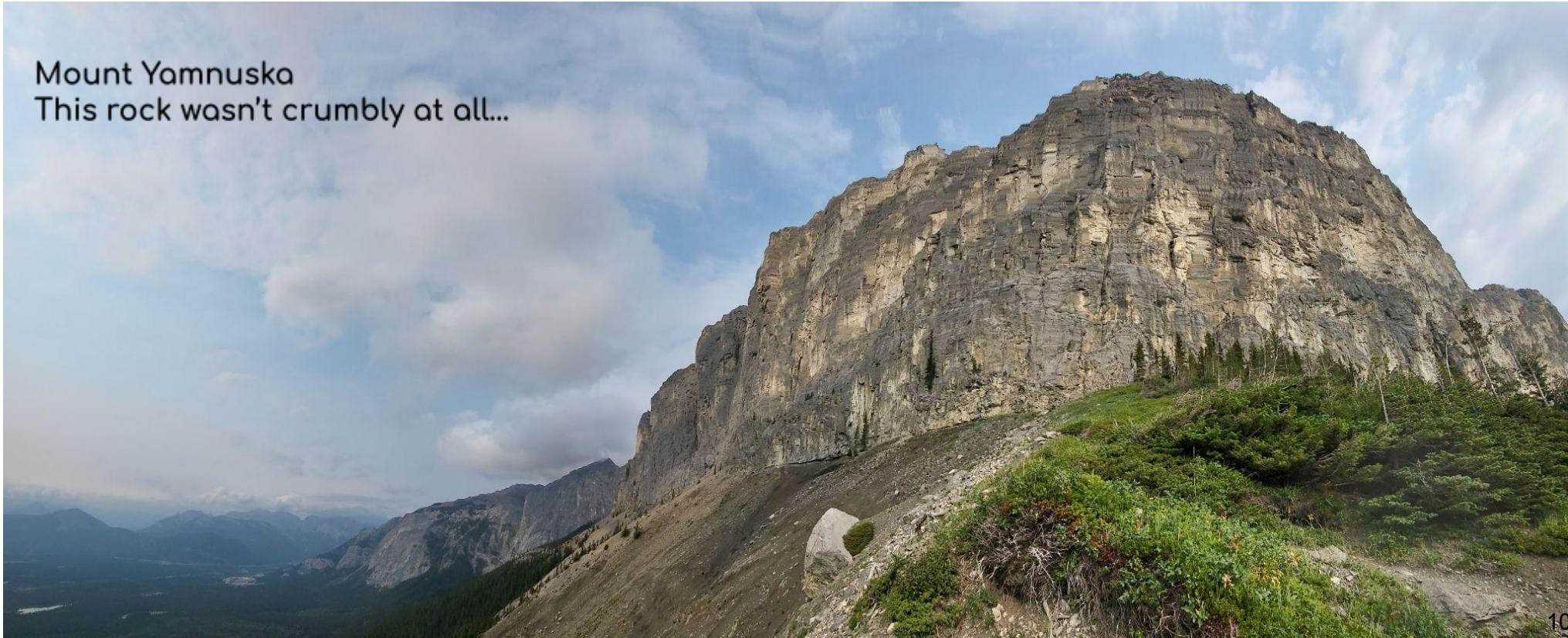


started up the second pitch, which although of marginally higher quality, had a similarly high number of crumbly holds haphazardly hanging onto the rocks. Near the top of pitch 2 a crack emerged and they gained confidence in the rock, and once complete, only the looming overhanging headwall with a three-tiered roof remained. Ben dispatched the last pitch with difficulty, each roof was progressively more and more difficult requiring hard burly moves, cranking on slippery, low angle holds. Once they topped out, they were greeted with a stunning view of the summit and came to appreciate the endless rodents of the Rockies and that they would take any opportunity to investigate your personal items for food.

Tom and Elliot had a similarly tricky time, with Tom taking the first pitch of Gollun Grooves, choosing an easy but choss filled sketchy gully to start. Aiming for a pulpit containing tat and a good rest led Tom astray and he unknowingly had led himself off-route. Handing the next lead over to Elliot lead to the famed Elliot-width moment.

Deciding that with all the rotten rock it was silly to climb above Tom and the anchor, Elliot traversed right balancing on small holds that kept breaking with every step. He then went up, following a line of deliciously placed solid bolts, straight into an off-width, or an Elliot-width as it was the perfect size for Elliot to get stuck in. His grunts (powerscreams of course) could be heard for miles around. After exiting the Elliot-width, Tom and Elliot finished the climb in excellent style: going further off-route up a line of shiny new bolts that feeled safe but aren't in the guidebook, then realising the line up the bolts was way harder than 5.8 and pulling on quickdraws to get off the crumbling mountain.

Mount Yamnuska
This rock wasn't crumbly at all...



The Bugaboos Approach (we took too much stuff)

Awaking at 5am, the team still half asleep readied themselves, packed the car and said their goodbyes to our hosts. A quick stop at Tim Hortons for Iced Capps gave us brain freeze and the much needed caffeine to tackle the 6 hour drive ahead - driven by the wonderful Mike. Leaving the seemingly endless flat prairies of Alberta and entering the heart of the Canadian Rockies along the Trans Canada Highway gave us our first taste as to the true scale of the Canadian Rockies.

Our only issue, the lack of a recently printed guidebook, however, stops along the way at Banff, Canmore and Radium Hot Springs did not yield the much needed guidebook, so we pressed on hoping to borrow one at the camp. After 4 hours, we left highway 95 at Brisco and continued along the Steamboat Mountain Road that leads into the great Purcell mountains and the Bugaboo trailhead. Concerned by the overloaded car, Mike gingerly navigated the bumps, pot holes and ditches of the neglected logging road. Everyone here would normally take a high clearance 4x4, and we were discovering why as the suspension buckled and groaned. Nevertheless, the team made it to the trailhead, stiff from the cramped ride, but psyched to get going. Only here did it become

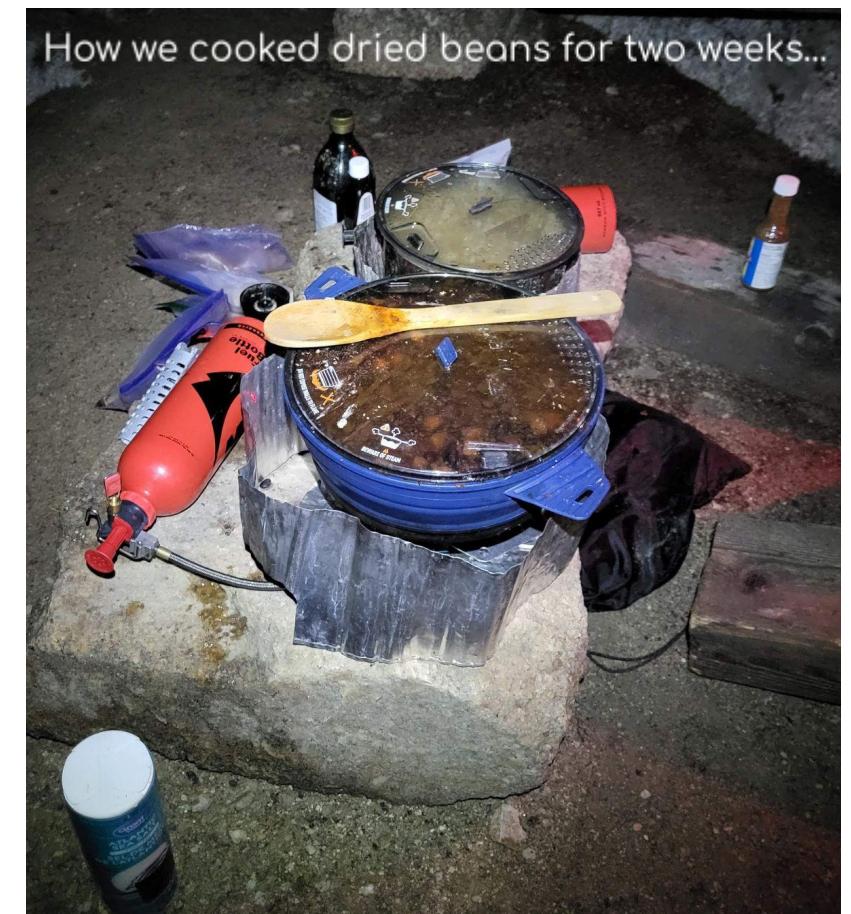
apparent as to the scale of the forest fire ravaging British Columbia. Extensive fires to the North, West and South left a near apocalyptic haze in the air. It was evident that despite the altitude, sun cream would not be needed.



With the team ready, we loaded our 90-some lb packs and commenced what would become one of the most grueling and miserable hikes to basecamp any of use would undertake. Piers had opted to use a duffle bag to carry gear in place of a conventional hiking rucksack - this would become a decision he would greatly regret due to the great load and the poor and unergonomic carry system. Taking frequent breaks, the ascent gained altitude exponentially, with the last 300m of ascent of the total 1200m taking nearly 2 hours due to the winding mountain paths, criss-crossed with via ferrata style steel rungs and chains, with a fall here being dire.

Due to the looming bad weather and the option of multiple camps, the group chose Boulder Camp as our basecamp over the initially proposed Applebee dome campsite. This would later become one of the best decisions we could make. Due to the Bugaboo-Snowpatch col being impassable, the higher Applebee Dome campsite didn't yield any significant advantage, and the Boulder campsite providing better shelter from the rain and better drainage for our tents.

Even though we knew of the unpredictable weather of the Canadian Rockies, we had no idea of the scale and the length of the spells of bad weather. Having made camp late on Monday night, we buckled down eager to climb, however, that would not be as the team endured 4 days of constant rain and spells of gale-force wind. Seeking refuge from the bad weather and with the lack of internet to keep us entertained (gosh), days were spent inside the Conrad Kain Alpine Hut chatting to other climber about route conditions and their own successes in the mountains, alongside reading, playing the card game cabo and throwing soft axes - which one Canadian, Rae, deemed important to carry up with her - and the occasional maths problem kindly provided by Elliot's girlfriend, Ella, as a way to keep us stimulated and sharp. Though this period required mental fortitude and optimism for what was to come, we quickly realised the treats and pick-me-ups within our food supply were rapidly being consumed, so we messaged Mike on the inreach desperate for updates on the weather, the wildfires and critically, asking to get more hot chocolate powder and dried mango!



The flower meadows of the Bugaboos approach are wonderful. Here (taken during the resupply trip as the original trip was smokey) we see the Buggaboys trekking up the mountain with their bags. Snowpatch Spire is in the background on the right.



Pre-Reuben Bugaboo Climbs

Despite the rain, psyche was high. It seemed that there was a solid weather window after the few days of rain. All that was left was to decide what to climb. The upside of the rain was that it cleared the smoke away, so after the clouds cleared we were greeted by the imposing monoliths of the spires.

Elliot, Tom and Nick

As their initial Bugaboos climb, the trio decided to go for a Bugaboos classic: Lions Way, PD+, 5.6. A three-star route that climbs a vague buttress above the biggest scree field we ever did see. After traversing the scree, we instead decided to climb the more interesting looking Lions and Tigers, AD-, 5.8. A climb to the left of Lion's Way which seemed a good bit more fun. The route had three initial interesting pitches - the most interesting pitch climbed by Elliot which featured a scary traverse around a buttress and then a fun crack climb that disappointingly ended too soon.

After the pitches we decided to move together. Nick led off as we started climbing some beautiful slabs, trending into some ridges which melted into delicate hand cracks. This was our first experience of moving together as a team: it felt wonderful. At the summit we had our first good look at the mountain peaks around us and marveled in the alpine playground that was the Bugaboos.



The boys on their first peak - the summit of Central Tower. Bugaboo and Snowpatch spires in the background.

Piers and Ben

Eager to experience first-hand North American splitter granite cracks, Donkey's Ears (AD) was chosen as the climb of choice, however, on arrival, the initial crack pitch was wet and with the sun still stuck behind convenient clouds and the granite spires, the Crescent Towers Traverse (PD) was chosen instead. This route ascended the eastern col between the Crescent Tower and the Eastpost Spire, climbing grade 2-3 scrambling terrain to gain the ridge. This eased to gain beautiful, exposed grade 2 scrambling, with the occasional piece of pitched climbing dropping onto the South face.



Ben climbing strong in his B2 boots.

The last pitch contained a wonderful 5.7 short crack climb, followed by a pull through a short roof then a delicate and run out slab above. It truly was a great ridge climb, and if it was in the UK there would be queues at the bottom every weekend, but Piers and Ben had it all to themselves.

Reuben

Reuben was packing and mentally preparing himself for the journey through the airport... the hardest pitch of them all.

Ben holding Snowpatch in his hands.



Post-Reuben Bugaboo Climbs



Keen for some more spicy climbs than they'd been on so far, Tom and Elliot set their sights on Ears between (5.8 or 5.10 maybe was there a rock fall?) – a varied climb up to the centre of the Donkey's Ears. After a techy start up a burly fist-crack - that felt like a solid E1 pitch - and into some more enjoyable hand-cracks, the route gave way to gentler terrain through slabs and ramps before steepening up again with two pitches into a chimney to the summit. The lower hand cracks were the highlight of the route, with a fun exposed move to gain the face. A similar move in the chimney was required to bypass a chockstone blocking upward progress. The final chimney was super burly and had a fun sequence where you had to get through a break in the chimney by exiting onto some delicate slabs before throwing yourself back in the big big chimney system.

After topping out in between the ears, Tom and Elliot soloed the easyish climbing to the top of the south Donkey's Ear to take in the marvelous views. After a day baking in the sun, the boys ran our of water very early in the day and so ran down the mountain (doing multiple abseils on the way), drinking greedily from the glacier river at the bottom.

Top Picture: Elliot, Tom and the big ol' sun chilling at the summit of the South Ear.

Right picture: Donkeys Ears growing out of the Crescent Towers. The south ear is the one furthest left. The route climbs straight up the middle, between the ears and the decent follows the scree field slanting right of the south ear.



With Reuben arriving the numbers within the team were bolstered, and wanting to ease into the climbing and gain a taste of what the area had to offer, Piers and Reuben set out for Lion's Way (PD+). Encountering traffic on the route and meeting the only other people in North America with DMM climbing gear (big up Wales), Reuben excellently lead his first alpine rock taking on the upper 5.6 pitches, which gave beautiful slab climbing, and Piers taking the lower and trickier 5.7 corner crack requiring a lot of bridging and cursing at the struggle to ascend the tricky corner.



Ben happy to have topped out McTech Arete in stunning time



Reuben eyeing up Northeast Ridge on Bugaboo Spire

Meanwhile, Ben, having befriended a group of Canadians at our camp thanks to repairing one of their crushed climbing helmets with duct tape and super glue (seriously) chose to climb a classic crack climb on the Crescent Spire called McTech Arete (D+, 5.10-). This was a classic of the area, with two hand and fist cracks at the base of the route (5.10+, 5.10), then a fantastic and sustained off-vertical hand jamming crack (5.9) followed by a shorter 5.8 slab pitch then a short but tricky 5.7 crack to gain the top of the tower. Andy proved a great partner meshing in style with Ben, with both of them efficiently banging out the route in sub-guidebook time.

Piers and Ben Take on the Spire

Splitting the team, and with Piers and Ben wanting to tackle the Becket-Chouinard later on in the week, the pair chose a few of the hard crack climbs on Crescent Spire. The first one proved a battle, with Ben eager to take on Roof McTech, a variation of McTech Arete (5.10+) where on the lower pitches it takes a heinous and difficult 9m roof followed by slightly easier jamming above on a white granite slab. With the route proving too hard for even the best climber amongst the group, the team quickly realised that the myths of 5.10 climbs being unpredictable and sandbagged were very true.

The next day, beaten and bruised from Roof McTech, Piers and Ben attempted Paddle Flake Direct (5.10+) a brutal and sustained crack climb composed of 5 pitches, none of them easier than 5.10-, taking a winding crack line to the top of the western summit of the Crescent Spire. Piers dispatched the first 5.10+ pitch with difficulty, with the lower section demanding efficient finger and ring-lock jamming techniques and the upper section demanding absolute precision on desperate slabs as you boldly step from one crack system to another. Largely unphased, the last move required a desperate and long reach for the in-situ chains and tat that marked the top of pitch 1.

Piers starting one of the many abseils from the top of Crescent Spire



With a heatwave now encompassing Western Canada, and the prairies reaching a scorching 38 degrees celsius, we had received warning of the intense heat from Mike via sat phone. Due to the time taken leading the first pitch, Ben had been standing in the blazing sun for close to 2 hours, unable to find shade and with the white granite reflecting all of the heat down to the bottom of the crag, heatstroke was becoming a major concern. So the decision was made at the top of pitch 1 to bail and shelter from the sun back at camp.

Piers chilling at camp,
making the most of the sun



Which one is Piers' damaged knee?

The rest of the trip for Piers was not to be; after paddle flake direct and walking around boulder camp in his poorly worn mountain approach flip flops, the front string broke and slipped and he fell between boulders at the camp, badly cutting his big toe and the sole of foot, and badly injuring his medial collateral ligament.

As such, his recovery would be slow, but willing to make the most of the trip he teamed up with Andy, the Canadian, to take on McTech Arete (5.10+) managing to lead both crux pitches

The Big Link Up (Pigeon and Bugaboo Spires)

This was the highlight of the trip for many of the group; fed up of merely ‘cragging’ on the Crescent Towers, and enthused by knowledge that the Bugaboo Glacier was passable following lengthy discussions at Boulder Camp and the Kain Hut, Reuben, Nick, Elliot, and Tom hatched a plan to tick off some bigger objectives.

It took a while to smooth out an efficient plan given the state of the Bugaboo-Snowpatch col forcing us through the crevassed Bugaboo glacier but eventually the following idea was born. A long approach starting from Boulder camp, up through the Bugaboo glacier and all the way to the Pigeon’s feathers would take us to the base of the West Ridge of Pigeon Spire, our first objective. We would then bivouac at the base of the West Ridge, before traversing the Vowell glacier and climbing Bugaboo Spire via the Kain route the following day. We’d climb as two rope parties, consisting of Elliot & Tom, and Nick & Reuben.

During this period, Piers and Ben had intended to have a rest day, and then climb Bugaboo Spire via the Northeast Ridge, potentially meeting the others on Bugaboo if timings permitted, although sadly this was abandoned after Piers injured his knee on the rest day.

The approach

Bags were packed. The alarms went off early for a nice alpine start. The team was ready.

Tom couldn’t find his helmet.

It wasn’t a great start to the adventure. After tearing through his tent, all other campsite tents and the surrounding areas to no avail, he ran the approach to the Crescent Towers hoping to find his helmet on the path he and Elliot had used to return the previous day, knowing where he took it off. It was in vain. Thankfully the friendly Canadian neighbours returned a favour and lent him the stitched together helmet Ben had fixed (Reuben brought with him a new not broken helmet for the Canadians), so the planning wasn’t for naught. We set off from the Kain hut with another group intending to do the West Ridge, following them along the winding path through the broken terrain to the south of Snowpatch, before arriving at the edge of the glacier, and assessing its state for ourselves finally.

The Bugaboo glacier was heavily crevassed, as we had been told, but was thankfully bare and with a well-trodden path guiding us through the labyrinth of faults. We worked our way across the flats before moving on to some slushier terrain where we snaked our way up the pigeon fork. It was in this part of the glacier where we had heard

of other climbers falling into crevasses. We were met with a number of dead ends following footsteps, where chasms sliced in half a path that presumably had a snow bridge. Eventually, we made our way up and out of the glacier with a good route on stable snow bridges over crevasses we could see the depths of. Off the glacier and on to rock, we had a rest and took on some water and calories before dropping our bivy gear at the base of the first objective.

Pigeon spire seen from the top of the Ice Fall rappels

West Ridge of Pigeon Spire (3156m): PD, 5.4, 500m

The West ridge was an easy climb on excellent rock, taking an obvious and beautiful line from the Pigeon-Howser col over the first and second summits of Pigeon Spire, before traversing up and around to the main summit. It started with easy scrambling out of the col before joining the main ridge - an incredible knife edge with no gear. Falling off here would be dreadful. We followed this without deviating more than a meter from the crest up and over the first summit.

More of the same led us to the second summit, with this stretch of the route being the highlight for all of us. With the first summit behind us, the route veered enough to the right that an unobstructed view of Bugaboo Spire and the Vowell Glacier were revealed - the only thing distracting us from it being the sharp falls to either side!

After a brief downclimb from the second summit a rising traverse lead to a short, shallow slab up to the main summit. The highest we'd been on the trip so far and comfortable in the knowledge that it was the early afternoon and our spot for the evening was at the base of the route, we soaked up some sun and took in the incredible views of

the Howser Towers, Snowpatch Spire, Bugaboo Spire, and the Purcells and Rogers pass in the distance. Eventually, after Nick threw the rope of the wrong side of the peak - much to the others dismay, we took two short rappels and retraced our steps through the second and first summits back to the base of the route.



Reuben and Tom walking down the glacier after bivvying at the base of Pigeon (seen in background left)

The Buga-bivvy

After a while trying to find an ideal spot, we settled on an area near the best toilet in the world and set about preparing some dinner. Nick had elected to save weight by not bringing a spoon and ate his meal like a cat (with sounds).

The wind picked up as the sun started to set and we prepared for bed. As most of the group was dozing off, Elliot was finalising his sleep setup with his fancy new pillow. It was a lightweight, soft and comfy pillow he had bought in Alberta only a week before.

Unfortunately, he neglected to weight it with anything and soon the wind had taken hold of his prized possession. Tired, emotional, and faced with the prospect of no bedtime luxury, Elliot broke the tranquillity of the sunset with an earth-shattering roar and some words that rhymed with duck but are not suited for print.

After some dejection and hearing laughs from Nick sat on the toilet behind him, he peered over the edge and was greeted by a miracle – his pillow had lodged itself on a ledge below us. Crisis averted. All was well.

The Kain Route on Bugaboo Spire (3204m):

AD, 5.6, 450m

After a quick breakfast of bars, we made our way down onto the Vowell glacier, and began a pleasant walk over a glacier in much better condition than its neighbours. Moving quickly, we were at the Bugaboo-Snowpatch col within an hour and looking up at the Kain route. Again we were able to stash our overnight kit, and got underway with the first half of the climb, a trudge up a mix of solid ground and scree. Eventually, we made it to the chimney that would lead us to the ridge proper, and roped up.

The next quarter of the route was pleasant moving together, following ledge systems either side of the ridge up to the last part of the route, the Gendarme. Two pitched of somewhat technical slab took us up and around the crux of the route, leaving us a couple rope lengths of easy scrambling from the summit. At the top we were just out of the haze that had rolled in overnight from the forest fires much further to our west, in Kelowna.

We didn't stick around given the numerous rappels ahead of us, and after a well hidden second rap made our way smoothly down the upper half of Bugaboo and walking off the bottom portion back to our gear in the col, where we could enjoy some pristine glacier meltwater.



Tom and Elliot at the top of Bugaboo Spire - the forest fire smoke at its strongest

The descent

Part retracing our steps on the Vowell glacier, we made our way to the icefall rappels, on the Snowpatch side of the Snowpatch-Pigeon col. 6 more quick raps and 5 cramped hanging rap stations later, we were back on the Bugaboo glacier for a short romp to the lateral moraine and a speedy walk back to camp.



Descending the glacier from Pigeon Spire the morning on the way to climb Bugaboo Spire

At camp we cooked and ate a hearty meal of mac'n'cheese – a very welcome break from the ocean of beans and bars that we'd been consuming. Tom found peace with his lost helmet too – it had been flown out on a helicopter with another climber who'd fallen collecting water at camp and was packed by his climbing partner. They were happily reunited four days later and haven't been apart since.



Reuben on the money pitch of Pigeon Spire.

Cooldown: Sport Climbing in Banff, Canmore and Lake Louise

The return to civilisation

As the smoke began to get thicker and the temperatures stayed high, we had run low on stoke and were not comfortable venturing out onto the glacier again. We decided to head down a day early along with most others on the mountain. This turned out to be another brilliant idea as it meant the car-park was full of potential hick-hikes. After an agonising walk down with much heavier loads than we expected to be returning with, we split up and managed to hitch rides to Radium - with Sam the last of our three Canadian friends picking us up for the last leg. That afternoon we melted into the hot springs and realised quite how bad we smelt when we opened our lockers after the cleanliness of the springs. We camped one last night with our Canadian friends; Sam, Rae and Andy. No beans this time though - we ate our weight in takeaway pizza.

The following day, Mike picked us up and took us back to Calgary via every Tim Hortons en-route. We reorganised gear, collected a hire car and collapsed into real beds for the first time in what felt like an eternity.

Banff life

Not wanting to wait around after the delays to the start of the trip and the poor weather we'd had, we were immediately away to Banff, where we had a campsite *with showers* for our final week. Banff was our hub for exploring some local crags, gear shops and especially coffee spots.

Industrial Playground

A Banff crag with both sport and trad routes. It was situated above the town and offered some fun routes on dubious rock.

Route Name	Grade	Notes
D (unknown name)	5.11a	Sport - Single pitch
The Nanny	5.10c	Sport - Single pitch
Party Hoppin	5.10b	Sport - Single pitch
Rogue Wave	5.10c	Sport - Single pitch
The Cat Came Back	5.10b	Sport - Single pitch

Calypso	5.10b	Sport - Single pitch
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Slabs that everyone apart from tom hated even though tom hates slabs

Despite everyone disliking it, we came back here a few times.

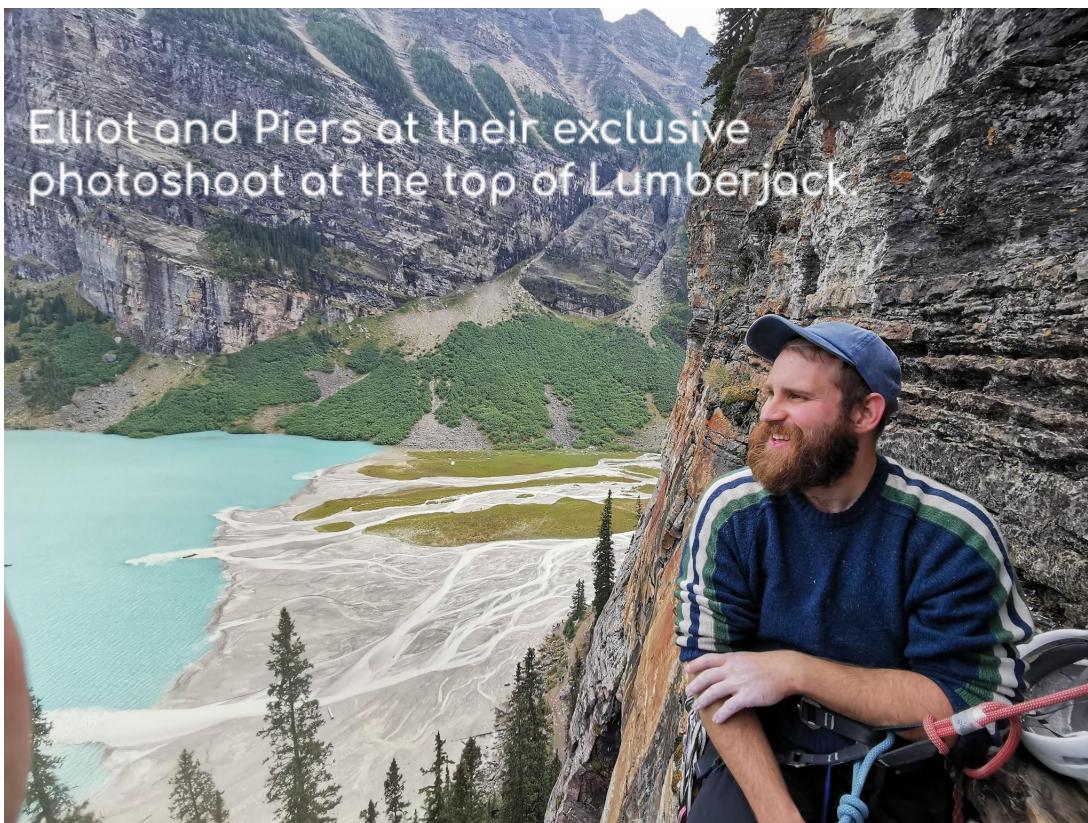
Route Name	Grade	Notes
Half Deck	5.10c	Sport - Single pitch
Aleutian Chain	5.10b	Sport - Single pitch



Lake Louise

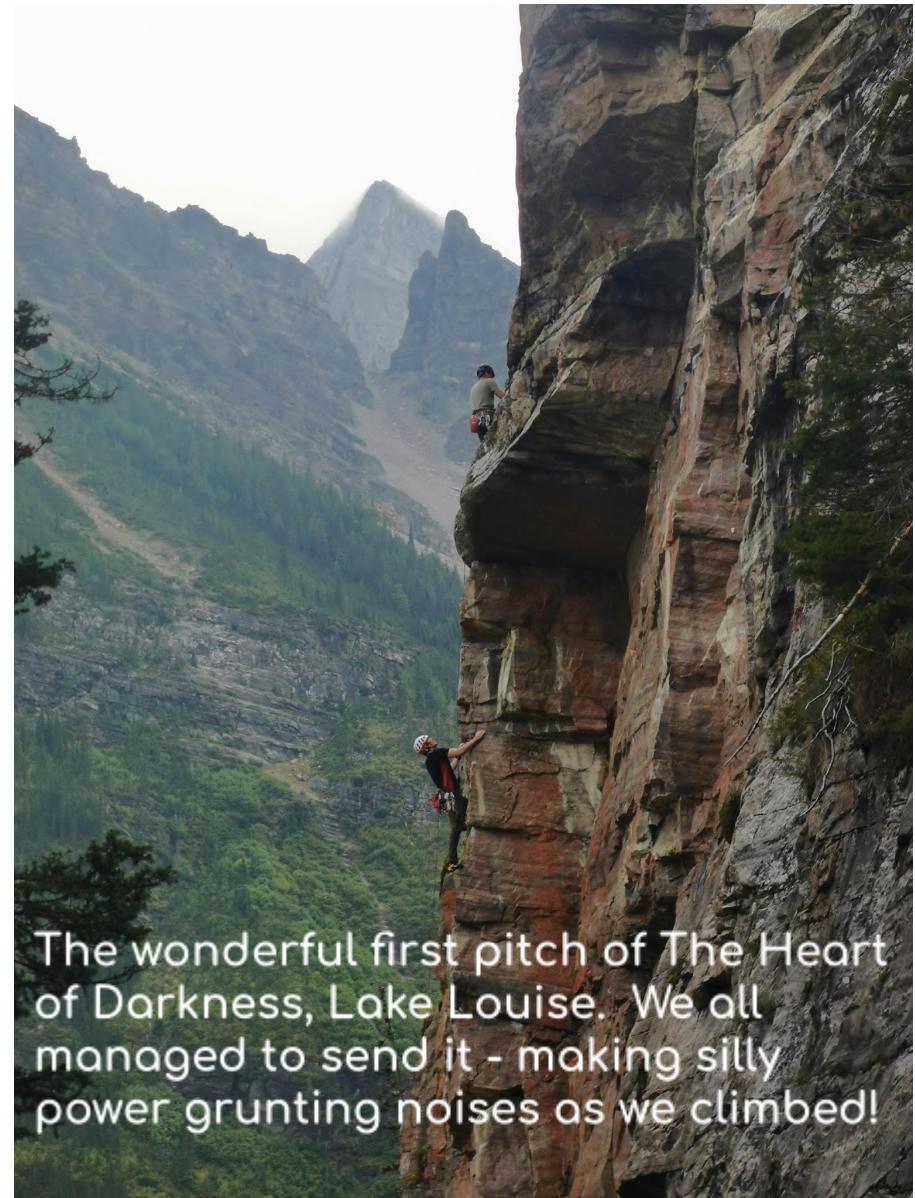
The climbing around lake Louise was fun, on good quality rock and with a beautiful approach skirting the edge of the lake. There was no shortage of tourists to quiz us about rock climbing and 'alec handhold' as the crag butted up against the main path. We quickly moved up and away to more secluded routes and were rewarded with some really fun sport climbing that yielded a great vantage down the length of the lake, just peeking over the tops of the pines.

Route Name	Grade	Notes
Heart of Darkness	5.10c	Sport - 2 pitches
Lumberjack	5.10c	Sport - 2 pitches
Traffic	5.10a	Sport - 2 pitches



Canmore - Bagels (and Bouldering)

On a rainy day, we made our way to Canmore to check out gear shops and the local bouldering gym (ew) where we could obviously pull our trad racks out of our bags. Sadly for our funds, we discovered an excellent bagel shop which was our advanced camp for the next few days. Indeed, the bagels were of such quality that Reuben kept accidentally driving past both highway exits for Banff, forcing us to Canmore again and again. Oh well.



The wonderful first pitch of The Heart of Darkness, Lake Louise. We all managed to send it - making silly power grunting noises as we climbed!

Acknowledgements

This trip wouldn't have been made possible without the wonderful generosity of Mike Babcock (featured in the back of the canoe), Anna Babcock and the rest of the Babcock family. Not only did they put up with six very stinky men occupying their basement, but Mike was superbly helpful in driving us to and from airports, shops, climbing shops multiple times, and most amazingly the Bugaboos!

Without their hospitality the stories and memories told above would have been a lot harder to make.

The biggest ever thank you - from all of us x

A second thank you goes to Lil Babcock (featured in the front of the canoe) who escorted us all to Canada and acted as a translator between the Buggaboos and the Canadians. Thank you for all of your help and support. We appreciate it greatly.

Finally we give thanks to the Imperial College Expedition Board - who supported our expedition and helped us adventure in an exciting and new part of the world.

Again, thank you. We look forward to our next adventure.



Pictures and Highlights

Canada was experiencing terrible wild-fires throughout the Rockies during our exped.

(Right) was taken in the wild-flower meadows below the Conrad Kain Hut in the Bugaboos Park.

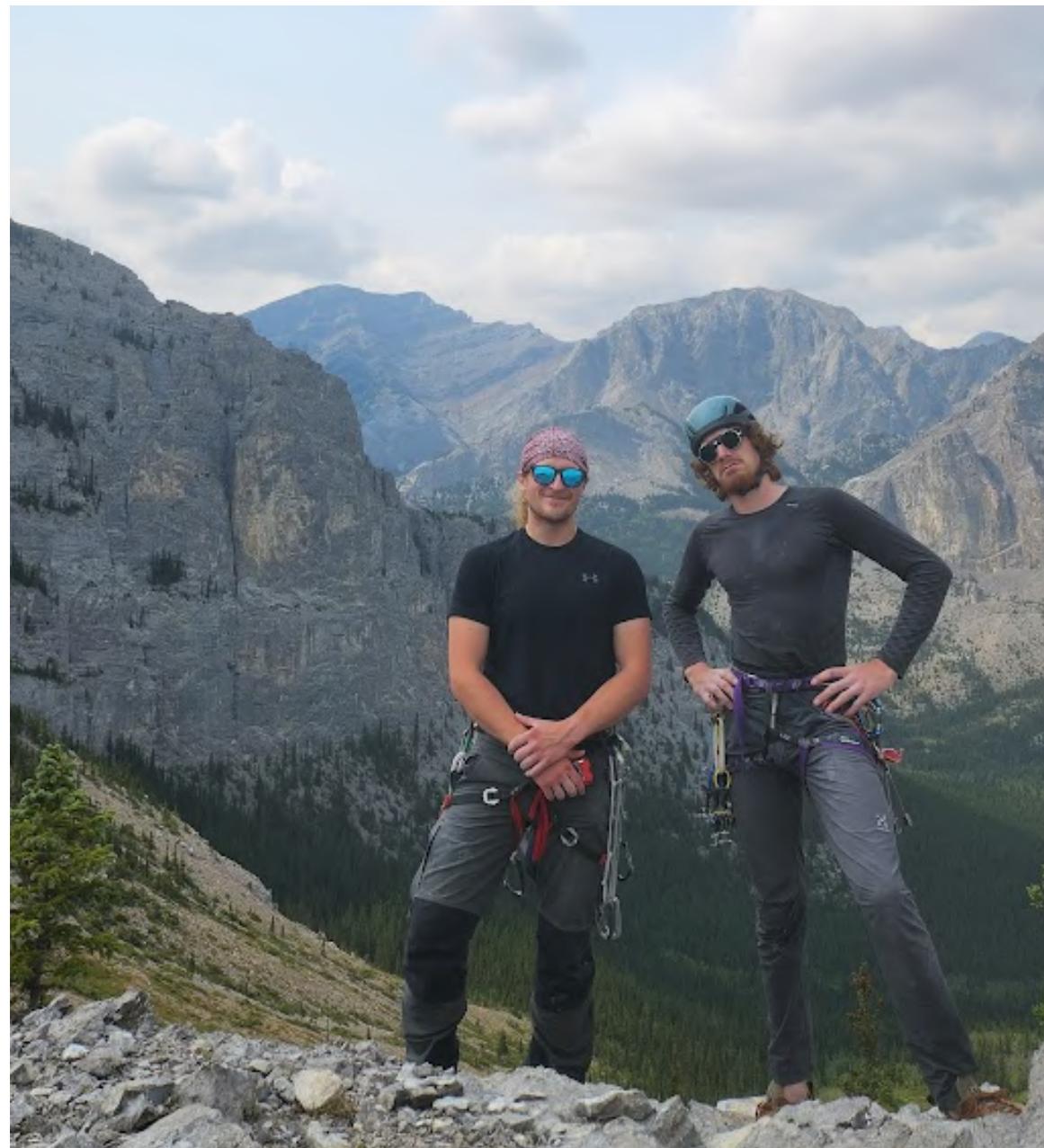
(Bottom) was taken on the morning of the bivvy two-day trip from Pigeon Spire to Bugaboos Spire (on the left).

When the smoke was bad the expedition felt very 'Lord of the Rings.'



(Left) Piers getting ready to climb Choss Mountain.

(Right) Ben and Piers feeling satisfied having 'survived' Choss Mountain.



Sunrise breaking over Ben's tarp one morning.



Snowpatch Spire, featuring a very depleted snowpatch.
The lack of snow and ice were one of the biggest challenges we
found in the Bugs.





Axe throwing!
In the Conrad Kain hut,
during a rainy day.

Toilet at the bivvy
near the Pigeon Spire,
where Elliot almost lost
his pillow.



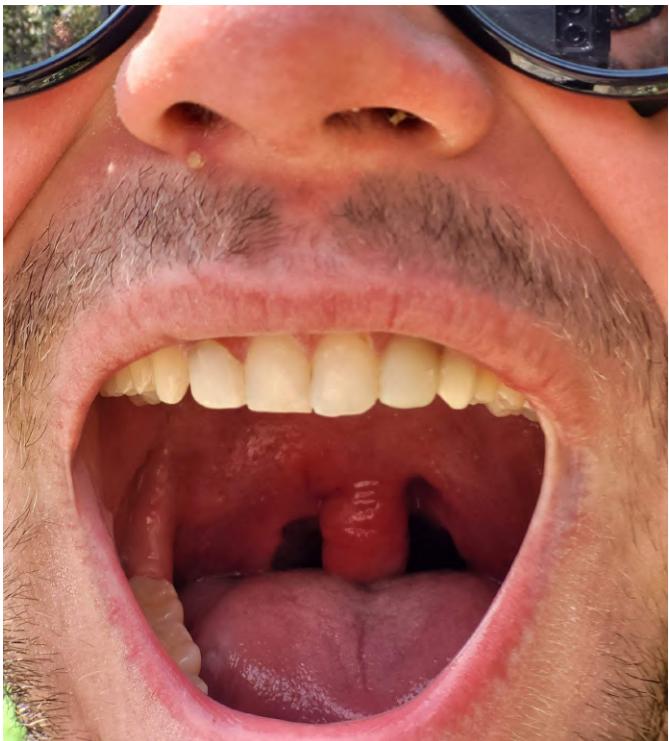
Snowpatch Spire seen on the approach to the Conrad Kain hut





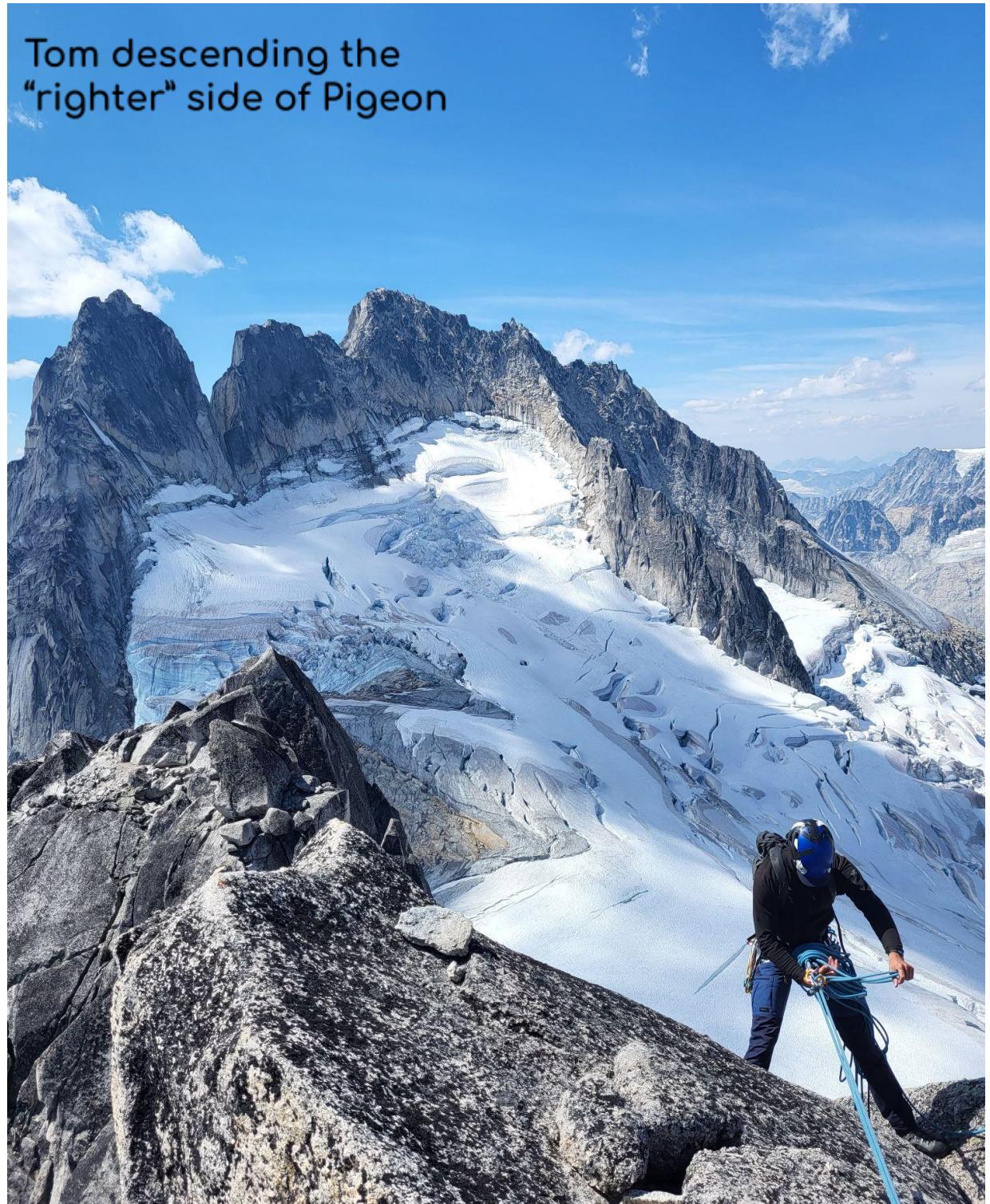
Ben with Snowpatch Spire in the background





(Left) is Tom's tonsillitis he developed whilst in the Bugs - medication was impossible to get hold off so we were lucky that Nick had some big bad Greek antibiotics to hand!

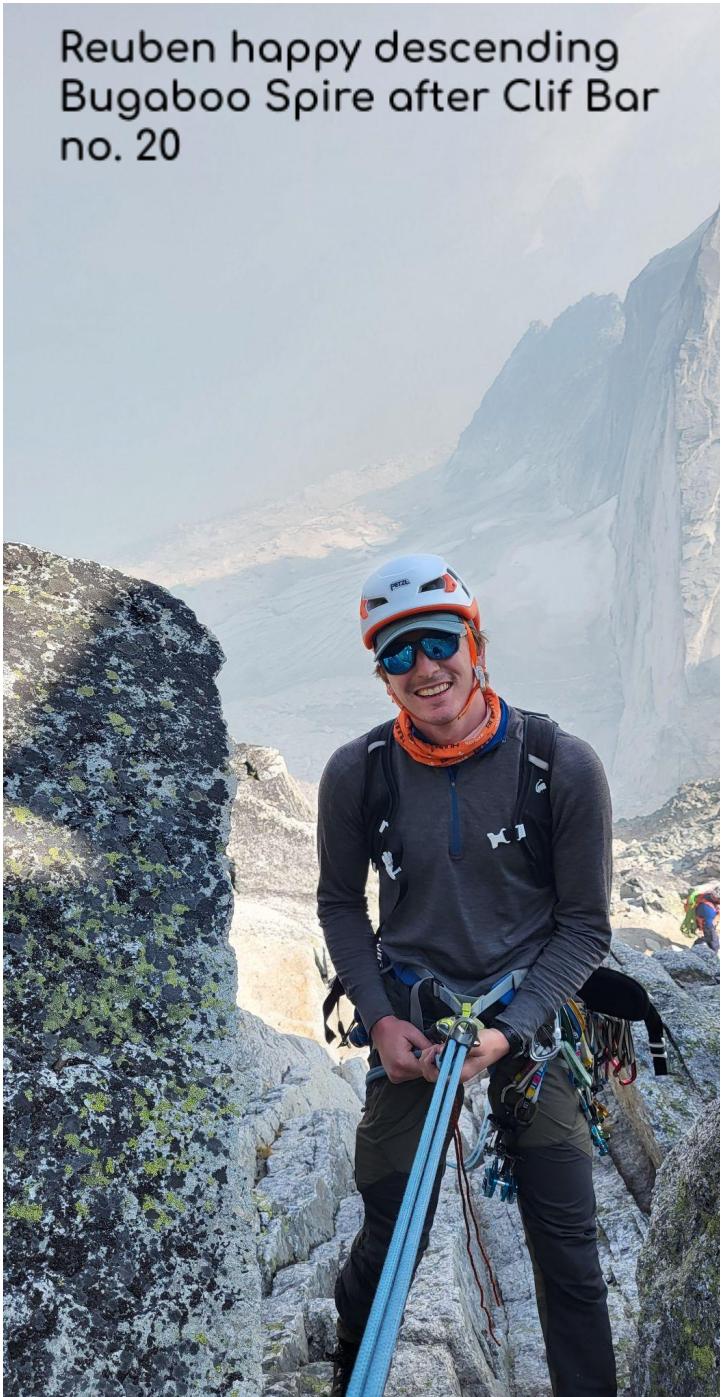
(Right) is the state of Lower Vowell Glacier - full of crevasses.



Elliot and Tom sleeping on the ridge of the Bugaboo Spire Kain route, as Reuben belays Nick on the Gendarme pitch



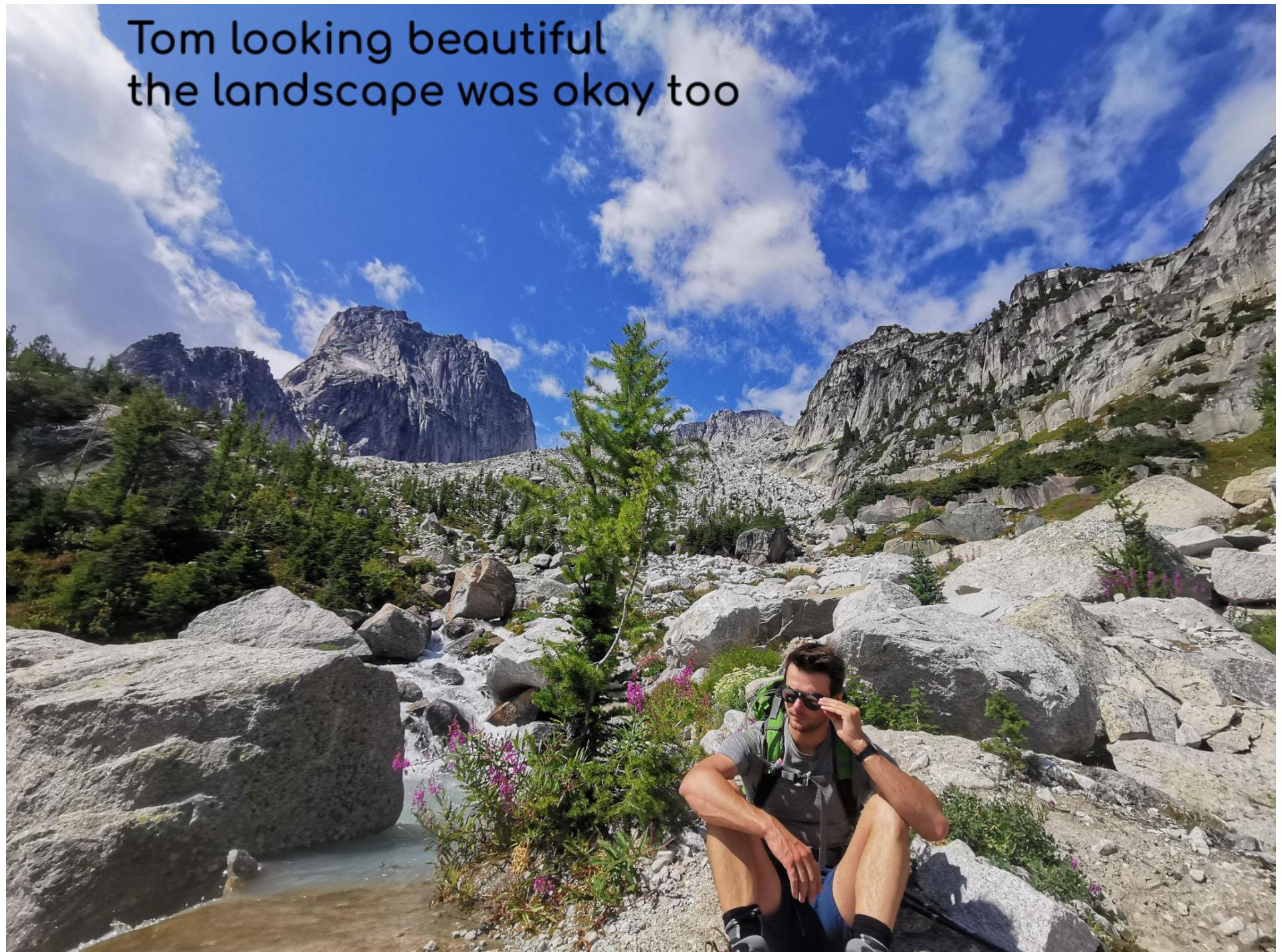
Reuben happy descending
Bugaboo Spire after Clif Bar
no. 20



Nick was also
very pleased to
begin
descending



Tom looking beautiful
the landscape was okay too



Pigeon Spire seen from the top of the Ice Fall Rappells



Tom roping up to begin climbing Pigeon West ridge - Bugaboo Spire in the background which would be climbed the following day



Nick leading the descent from Pigeon to Bugaboo Spire - navigating crevasses with the agility of a cat

