Iceland First Ascent Bouldering - Summer 2022
Proposal

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Laurene Ville William Lovett-Turner Benjamin Jones Hadrien Ville

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Chapter 1

Introduction

1.1 Aims and Objectives

Bouldering in Iceland is gaining traction and significant development has been done to a select few areas. However, with the limited number of climbers and the limited climbing season, there still exist largely unexplored areas especially in stretches on the south coast and the east and the west fjords. Many of the smaller, less developed bouldering areas in Iceland have few harder boulders. Most small areas have less than 3 boulders harder than V5. This provided a ripe opportunity not only for finding new boulders and climbing them but also for climbing harder boulders in areas with few established climbs.
We drove around the entirety of Iceland on the ring road and aimed to develop notable bouldering areas we encountered on the way including area around the Svínafell Mountain and the Svínafellsjökull glacie, the Vestrahorn boulders, Fjallsarlon and Hnappavelir in the South, Seydisfjordur in the East, and Vadalfjoll in the North-West. Our objective were as follows:

- Return home safely
- Obtain the first ascents of boulders in grade ranges up to V8 in a variety of styles
- Develop a unique set of skills in doing first ascents of boulders
- Pass on outdoor bouldering and trip organization experience to younger club members
- Document all new climbs for future climbers
- Be environmentally conscious and self-sufficient
- Have fun!

On returning of our trip we can say for sure that these objectives were achieved.
Since the initial proposal the scope of the trip was broadened, this was enabled by the introduction of a second driver to the team, Hadrien Ville, and the limited number of completely undiscovered climbing areas in the south of Iceland. This was without a doubt worthwhile since we found two new bouldering areas and had the opportuinity to develop the stunning Vadalfjoll crag in the west fjords.

1.2 Location

Our chosen route would take us anti-clockwise around the entirety of Iceland, primarily using ring road which encompasses the island. The route shown in Figure 1.1, shows the primary destinations we stopped at, roughly corresponding to one per day.

Figure (1.1) A map showing the stops taken during our trip around the ring road, with each stop marked with a white circle.

Additional driving was also performed to visit various road-side crags, waterfalls, thermal baths, shops, and the frequent points of extreme natural beauty. On average, we drove more than 2 hours per day, however some days included 6+ hours.

1.2.1 Svinafell and Svinafellsjokull

The first areas we explored were close together and near the Svinafellsjokull glacier. The Svinafell campground is 341km from Reykjavík. It took 4hrs 30mins to drive from Reykjavík to the campground. The closest settlement is Hof which is a small farming hamlet 14km away from the campground, taking 15 mins to get there by car. The closest large town with shops is Hofn which is 130km to the East of the campground and takes 1hr 40mins to get to.

Figure 1.2 denotes the two areas that we explored. In blue is the area closer to the glacier and up the path from the Hafrafell boulder which is next the Svinafellsjokull parking. The red area is the location of the existing Svinafell boulders and are located at the southern tip of the Svinafell mountain[11]. Both areas had new boulders to explore however, there was significantly more to develop and climb in the red area. It can be noted that we have climbed on most of the worth while bouldered there now. Many of these boulders are on

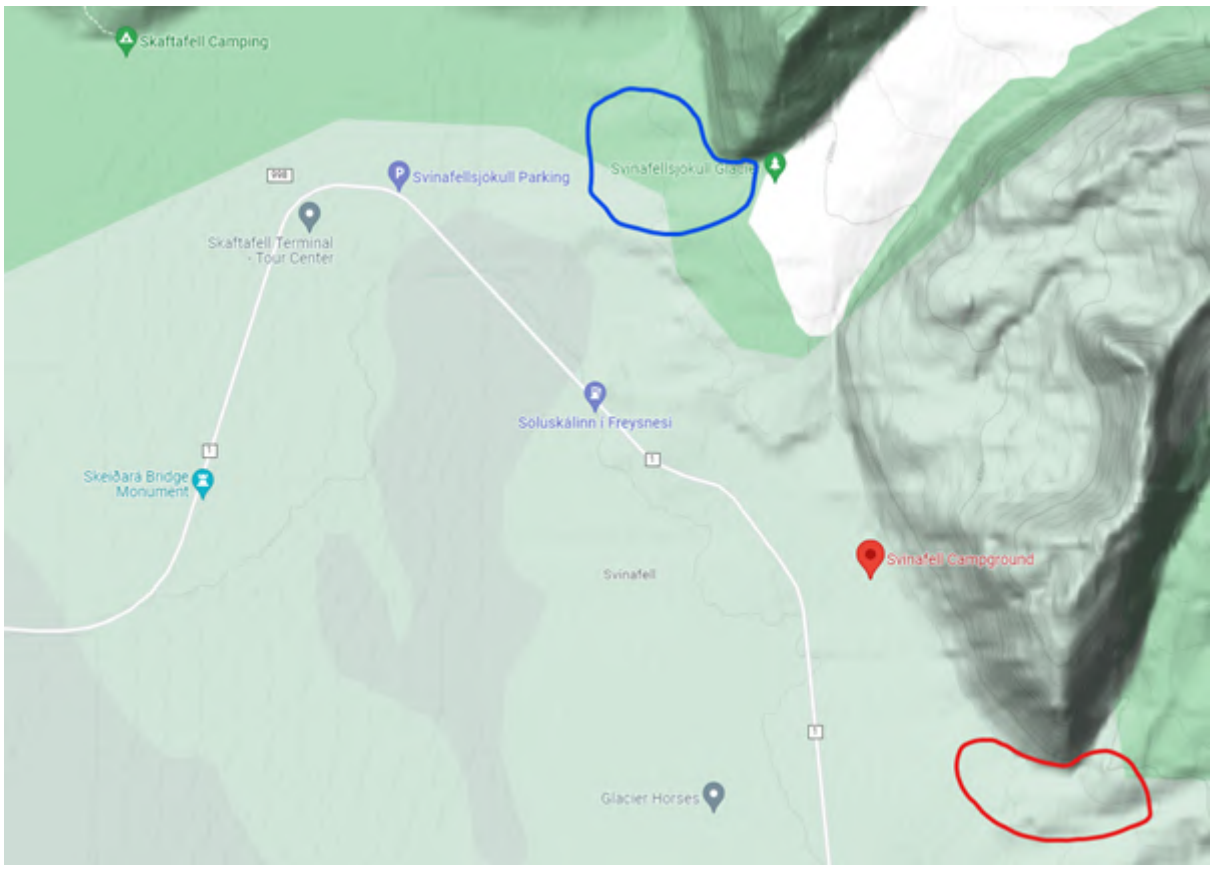


Figure (1.2) A map of the overall Svinafell area[5]

the side of a hill and required some bushwhacking to get to.

To get to the red area at the southern tip of Svinafell, it is only a 1hr 30 mins walk from the camp site, taking the route shown in Figure 1.3.

To get to the blue area shown in Figure 1.2 and Figure 1.4 we will drive to the Svinafell-sjokull parking, and walk from there, exploring the area on the way for undiscovered boulders.

Figure (1.3) A map of the location of the boulders at the southern tip of Svinafell[9].

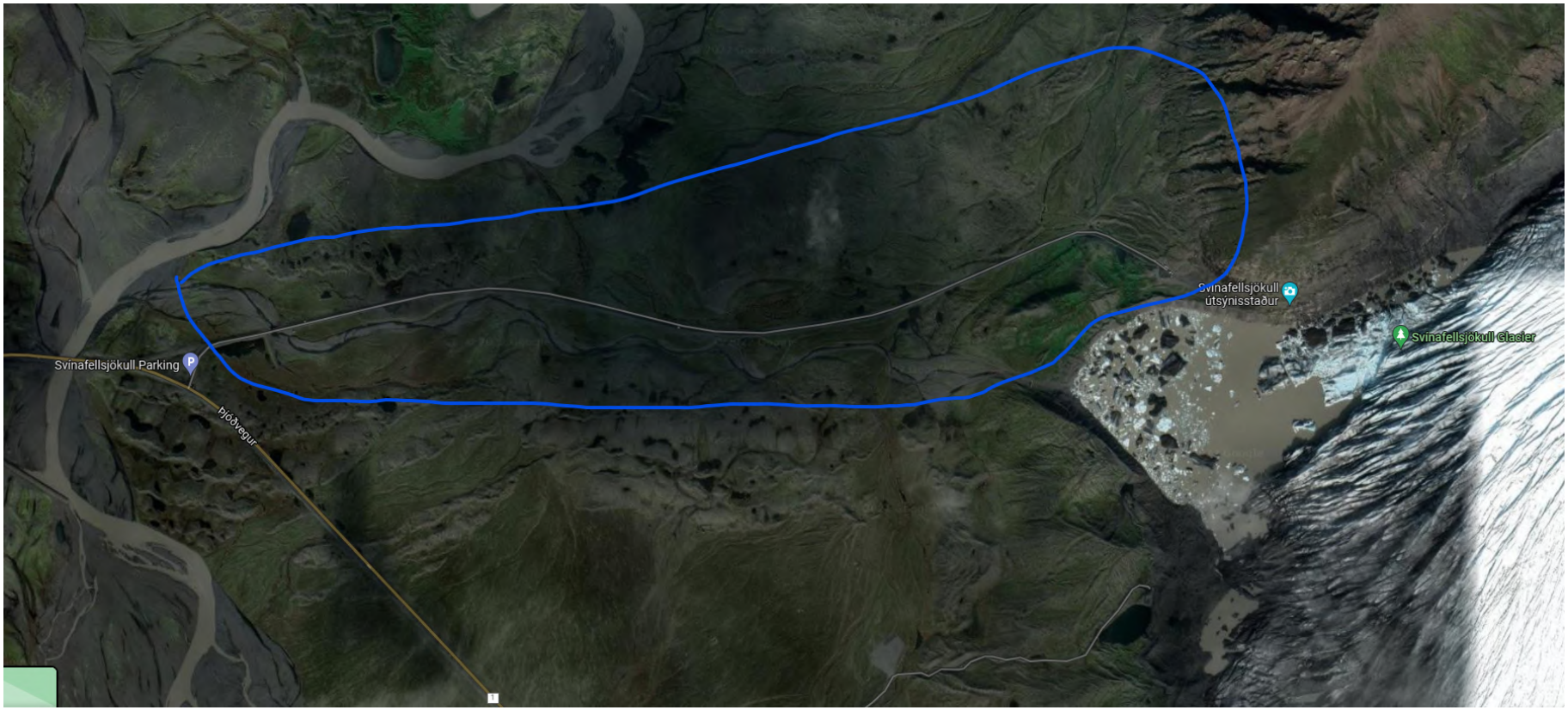


Figure (1.4) A map showing the area near Svinafellsjokull worth exploring[6].

1.2.2 Fjallsarlon

In front of the Fjallsárlón glacial lagoon are several large rocks that offer quality world-class sloping climbing[10], Figure 1.5. This area is directly accessible from the main road. It is 42.5km East of the Svinafell campground and takes 40mins to get there by car. We unfortunately weren't able to explore this area and climb here since it was heavily raining but there is much to be done there and is absolutely worth a trip to.

1.2.3 Vestrahorn

Vestrahorn is the most developed area in iceland with 400 routes and boulders recorded on the klifur.is website[12]. It is also extremely well documented with topos being present on the website. It is 140km from the Svinafell camspite, a 2hr drive, Figure 1.5. Despite the wealth of boulders here, far from all of them have been discovered, providing ample opportunity to discover new ones. The closest town is Hofn which is only 17km aways, a 30min drive.

Figure (1.5) A map showing the locations of Vestrahorn and Fjallsarlon relative to th Svinafell campgrounds[7].

1.2.4 Seydisfjordur

The town of Seydifjordur is in the east of Iceland sitting at the end of a large fjord, there is a wealth of climbing along the sides of the fjord. We were only able to spend a single day here so we decided to drive down the fjord towards the sea to a seaside boulder field which provided ample boulders, some of which we climbed but with many more remaining to be done. The crag is at these coordinates. 65°17'16.8"N 13°47'16.6"W. It should be noted that there is no phone reception here or at least close to none at this crag. This is a new crag and was not documented on Klifur.is

1.2.5 Vadalfjoll

This crag is located in the west fjords at the top of a mountain. Its exact location is documented on Klifur.is. It is formed of a collection of basalt columns all tessellated together. The rock here is high friction but can be brittle so extra care was taken not to climb on holds that felt loose.

1.3 Climate and Weather

The temperature in Iceland in August ranges from 6.6 deg C to 10.4 deg C with an average humidity of 81%. Rain falls for about 15 days of August, accumulating 83mm of precipitation during these 15 days[14]. The average wind speed is 13.4km/h making it the third calmest month of the year. This is windier than even the windiest part of the year in the peak district.
The weather in Iceland is also highly variable so we will need to be flexible in our planning. If it rains, we can still go exploring and searching for boulders with climbs on them. We can then come back on another day to climb them. Another possibility is to go to another potentially dry crag while it rains, this is of course dependent on how much rain the entire region has experienced.
The weather determined several of our climbing days and it rained about half of the days we were there, however it tended to be intermittent and dried quite quickly meaning we could climb on days where it was drizzling.

1.4 Rock Type

There are two main types of rock in the Svinafell area, basalt and tuff, both of which are solid volcanic rock. The rock will have also been eroded by the glacier. The rock was generally good quality but there were some boulder which be broke holds off while we climbed, this is to be expected in an area that is clearly not frequently climbed in.
The rock in Vestrahorn is called Gabbro and is similar to granite[3]. The types of holds that appear on these rock types will vary greatly and so will the friction of each, therefore training in a variety of bouldering styles will be necessary to prepare for the different grip types that will be present on the rock. Because the rock is solid volcanic rock, it should dry quickly, it will not absorb moisture like sandstone. This means it should dry quickly, it should also mean that climbing on damp rock will not be a problem and will not increase the chances of damage to the rock.
Basalt, tuff and gabro were also common to the other areas that we visited.

1.5 Expedition Members and Their Experience

Despite most of the members of the expedition being younger, all members have significant experience in climbing, walking and trip organisation. We therefore find the team to have a skill set sufficient to successfully complete the expedition. All members of the expedition are members of the Imperial College Mountaineering Club.

1.5.1 Cyrus Goodarzi

Role: Leader
Age: 22
Academic Background: 4th Year Electronic and Information Engineering
Relevant Experience:

- Summer 2018: Organised and completed the first half of the Coast to Coast long distance walk.
- 2018-present: Weekly indoor bouldering sessions up to a standard of V8 bouldering and climbing-specific strength training sessions.
- 2018-present: Climbed several V8 boulders outdoors in the peak district. Experience climbing all over the UK on club trips and solo.
- Summer 2019: Single and multi-pitch sport climbing in Verdon and Calanques, France.
- Summer 2021: Organised and completed the Cumbria Way long distance walk.

Relevant Positions:

- 2020-2021: Webmaster of Imperial College Mountaineering Club
- 2021-2022: Captain of Imperial College Mountaineering Club competition team

1.5.2 Dominic Rusch

Role: Deputy Leader and Driver
Age: 22
Academic Background: 4th Year Computing
Relevant Experience:

- Regular indoor boulderer.
- Bouldered f7C and f7A flashes in the Peak District.
- Did single and multi-pitch sport climbing trip in Verdon and Calanques, France.
- Took part in scouting for more than a decade; many trips spent hiking and camping outdoors.

Relevant Positions:

- Member of the Imperial College Mountaineering Club competition team

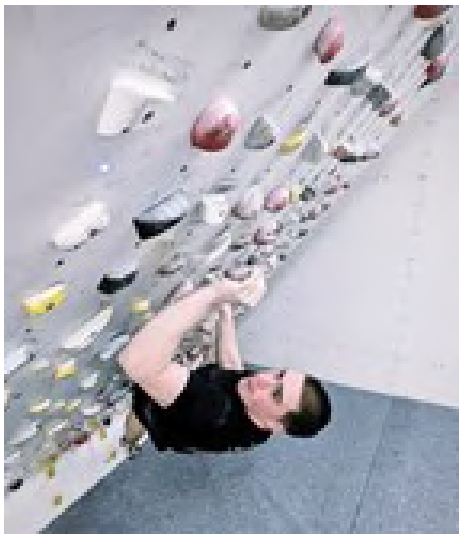
1.5.3 Callum Hargrove

Role: Chef, Chief Route Grader
Age: 18
Academic Background: 1st Year Design Engineering
Relevant Experience:

- Bouldered f7c outdoors
- Came 3rd in 1st round of LUBE, ranked 28th in UK on the Moonboard (training board)
- Solo outdoors travel experience in UK and group experience trekking in Nepal (Annapurna Base Camp 2014)

Relevant Positions:

- Ex-Vauxsquad climbing squad member
- Member of the Imperial College Mountaineering Club competition team



1.5.4 Asha Bakhai

Role: Chief Hyper
Age: 19
Academic Background: 1st Year Design Engineering
Relevant Experience:

- 2018: Climbed Mount Kilimanjaro for charity in 6 days, camping and carrying one 50L rucksack.
- 2019: Represented England in the World School's Climbing Championships in Aubenas, France and came third.
- 2020 - present: Climbed several v6 boulders around the UK and planned several multi-day trips to Wales, Peak District and Lake District
- 2021: Organised a week long bouldering trip to Fontainebleau, France and climbed f7a.

Relevant Positions:

- Member of the Imperial College Mountaineering Club competition team

1.5.5 Laurene Ville

Role: Chief Adventurer
Age: 19
Academic Background: 2nd Year Geophysics
Relevant Experience:

- Climbing (2017-present): Regular indoor bouldering and lead (up to 6c) in France and in the UK; Occasional outdoor bouldering (Fontainebleau), lead (Alps, Viaduc des Fauvettes) and multi-pitch (Alps)
- Mountaineering: La Meije (2015), Barre des Ecrins (2020)
- Treks: 2 day in the Himalayas (2018), Kilimanjaro (2019), 6 days on the Santiago de Compostela (2021), North part of GR 20 (2021), self-lead 3 to 5 days bike trips (2020 and 2021)

1.5.6 Benjamin Jones

Role: Medic
Age: 24
Course: Medicine
Relevant Experience:

- Trad up to E2, sport 7a+, and bouldering 7b.
- A lot of bouldering experience on grit and limestone around where I grew up in the peak district. Multi-pitch trad, various alpine ascents and easier alpine rock routes, a small amount of winter climbs
- Some scottish winter experience and teaching
- Some alpine experience, 4000ers and guiding

Relevant Roles:

- ICMC Webmaster
- Bolivia 2019 Exped alumnus: 1 month of 4x4s, untouched desert bouldering and wild camping at high altitudes

1.5.7 Hadrien Ville

Role: Medic
Age: 21
Course: 3rd Year General Engineering
Relevant Experience:

- Regular indoor boulderer (up to 8a - 7a flash) and outdoor boulderer from time to time in fontainebleau
- Multi-pitch sport climbing in the Verdon and the Tarn, and sport climbing all over the world
- Climbing wall instructor award (2018-present)
- Mountaineering: La Meije (3984m - 2015), Barre des Ecrins (4102m - 2020)
- Treks: 2 days in the Himalayas (2018), Kilimanjaro (2019), North part of GR 20 (2021), self-lead 3 to 5 days bike trips (2020 and 2021), 3 days in Chapada Diamantina (Brazil) and 4 days in amazonian rainforest (2022)

Relevant Roles:

- 2020: Founded climbing club at my university – president of the club

1.5.8 William Lovett-Turner

Role: Resident Geologist
Age: 19
Academic Background: 1st Year Earth and Planetary Sciences
Relevant Experience:

- 2019: Gold DofE.
- 2019 – present: indoor climbing (up to V6 Boulder and 7a Lead).
- 2021-2022: single and multipitch climbing in the Peak District, North Wales, Isle of Portland, and Dartmoor (up to E1 trad and 7a sport).
- Easter 2022: bouldering in Fontainebleau (up to 7a).
- Outdoor first aid qualified .
- Involved in organization and driving for Imperial College Mountaineering Club trips.

Chapter 2

Logistics

2.1 Transport

During the expedition, our main form of transport was 2 rented Dacia Dusters, which offer 4x4 driving capability and sufficient luggage space, whilst being relatively affordable. These cars would be picked up and dropped off from the Lotus Car Rental office near Reykjavik airport, which offered a shuttle service to the airport and back. Each car would transport 4 members of the expedition, being driven by Dominic and Hadrien throughout the expedition.
Whilst buses were initially considered, they didn't provide the freedom of movement we desired, and would have needlessly restricted us to popular areas. As we were seeking out unclimbed rock, the choice of renting cars proved to be a very worthwhile one.

2.1.1 Flights

With the exception of Ben who was arriving on day 4 of the trip (due to prior commitments), each expedition member arranged flights on the IcelandAir flight FI455, from London Heathrow to the Keflavik airport, near Reykjavik. This flight would arrive at 23:40 Icelandic time on August 1st, and so we planned and managed to sleep in the airport overnight, before our scheduled car pickup the next morning.
At the end of the expedition, all members left from Reykjavik airport on the morning of August 14th. Most members returned to London Heathrow via an IcelandAir flight departing at 07:40, with remaining members departing within the next hour from alternate airlines. We therefore planned to once again sleep in the Reykjavik airport overnight, and targeted to have the rented cars returned by 10:30pm, before shuttling back to the airport to get a few hours of sleep.
Sleeping at the airport turned out to be quite successful - as we each had sleeping mats and bags the night was spent in relative comfort, whilst we were also accompanied by many other travellers, most of whom occupied the worn metal benches scattered around one particular nook of Reykjavik airport.

2.1.2 Cars and Driving

After the abrupt wakeup on the 2nd August, the expedition team was shuttled to the Lotus Car Rental Office. We rented 2 Dacia Dusters from Lotus Car Rental with gold

insurance. This included gravel ash and dust cover in case gravel on the road caused damage to the cars while we traveled. The cars were duly examined, and we departed to Reykjavik, where we would rent the bouldering pads used for protection throughout the expedition, as well as shopping for the first half of the expedition.
After arriving at Keflavik airport on the fourth day, Ben took a bus to Skaftafell where we had been lingering around, sampling the local bouldering and establishing new climbs already. Hadrien drove to the nearby bus stop to pick him up, and we continued on our trek, now further laden down by the enormously unnecessary amount of gear which Ben had brought with him.
Whilst the largest portion of driving time-wise was spent on the Icelandic ring road, the most memorable sections were manoeuvring questionable "roads" leading to niche climbing locations. Such roads frequently consisted of steep inclines and slants, paired with unreasonably sized boulders and streams daring would-be travellers to turn back. Loose gravel would occasionally be indiscriminately scattered, and blind turns or lips in the road were an anticipated earmark by the end of the expedition. In particular, the approach to Vadalfjoll in the west fjords featured all of these hindrances, possibly because it was at the top of a mountain. Steady use of low gears and the Duster's 4x4 capabilities were greatly appreciated!
Aside from one incident where we built a rock ramp to drive out of a steep roadside ditch, and another where one car's wheel almost fell off, the driving went notably smoothly. The latter is apparently common problem with Dacia Dusters being rented to tourists, often the bolts attaching the wheels to the car are improperly tightened which causes vibration while driving, ultimately causing them to sheer. This happened later in the evening and we were able to call Lotus Car Rental's emergency line who informed us that a Mechanic would be with us in the morning.
We seemed to frequently progress quicker than expected, and many interesting music choices were sampled throughout the driving, at least when each car's passengers were awake.
The choice of 2 Dacia Dusters proved to be excellent, adequately providing the desired driving and space requirements, whilst fitting well into our overall budget. It was a sad moment when we returned the cars, saying goodbye to the vessels for our newly formed memories. The Dusters themselves were likely not too sad though, anticipating cleansing from the accumulated dirt, mud, and copious amounts of flies.

2.2 Navigation

Google maps and google maps satellite view were highky effective in finding roads to drive to crags and to find new areas of rock. The Outdoor active app was also very useful as it had detailed trail maps of Iceland and allowed you to download maps for offline use. This was helpful in the few cases where we did not have cellular signal.

2.3 Communication

We communicated using smartphones exclusively since there were very few cases where there was no phone signal. In these few cases we made plans to meet by the cars at a certain time for lunch and made sure that no person went away from the group alone.
We decided not to bring a satellite phone in the end since there was not one available and we were extremely unlikely to need it since we were staying on the ring road where cellular service is very good.

2.4 Accomodation

2.4.1 Campsites

As shown in figure 1, the svinafell campground is equidistant from the two areas we wish to explore, coloured in blue and red. Therefore it makes the most sense for us to use this campsite as our main base of operations for the trip. However, it does not take reservations for tent campsites. This makes it easier for us to be flexible, however, it means there is a small chance there is no space for us there when we arrive. We can therefore use the Skaftafell campsite as a backup. It has similar amenities, is a similar distance from the climbing areas and also does not take reservations. Meaning we can easily show up and take a space if needed. Both campsites are very similarly priced.
Staying in a designated campsite will give us access to running water, electricity and bathroom facilities.

2.4.2 Wild camping

Our accommodation was a mix of campsites and wild camping. In the case of each wildcamp night, we chose locations far away from towns and other people, we always set up camp late and packed up early to both minimise our disturbance of the campsite and to avoid others seeing our campsite. We also chose areas that would be minimally affected by the setting up of our tents. We will not give the exact locations of our campsites to minimise the risk of others using them thus reducing the impact on those specific campsites.
After we arrived, we spent the first night, sleeping at the airport until we picked up our cars. We then spent 3 nights at the Svinafell campsite. Due to the breakdown of the car we wild camped near the cars for a night by the side of the road, we made sure our tents were far from the road. The next night was spent at the Hnappavelir campsite next to the hut set up by local climbers. The campsite is technically free but we gave a small donation to the Icelandic bolting fund on the recommendation of some locals to help with upkeep of the hut. The next two nights were spent at the Vikining Cafe campsite near Vestrahorn. The next two nights were spent at wild campsites in the east fjords and in the north of Iceland near Akureyri.
The night of the 11th we stayed at the campsite of the Hotel Laugar Saelingsdal. Then we had another wild camping night and drove back to Reykjavik where we spent our last night in KEF.

2.5 Itinerary

The trip happened during the first two weeks of August, from Monday the 1st to Sunday 14th August. The itinerary is shown in Table 2.1.

Date (August)	**Activities**
1st	Meet in London to organise gear and travel to Airport. Flight from Heathrow to Keflavik airport
2nd	Flight arrives in Keflavik airport, slept in the airport and picked up cars at 8am. Drive from Keflavik to Reykjavik to do the first shopping trip for consumables and pick up bouldering pads. Drive to and set up camp at Svinafell campsite and see some sights on the way.
3rd	Climb at Svinafell boulders.
4th	Climb at Skaftafell boulders.
5th	Climb at Svinafell boulders again during the day until Ben arrived. Made dinner at Svinafell campsite. Car broke down shortly after leaving the campsite. Set up camp near car.
6th	Waited for mechanic to start driving. Rest day to reformulate plan. Drove to and set up camp at Hnappavelir campsite and hut. Night climbing since the daylight hours are so long.
7th	Some morning climbing. Drive to Jokullsarlon. To see area despite bad weather. Drive on to Vestrahorn and set up camp there.
8th	Climb at Vestrahorn boulders and try Boreal multi pitch route up the mountain.
9th	Drive along the eastern road to Egilstaddir. Climb at new roadside crags we find. Climb at sugar loaf boulder. Drive to Seydisfjordur and camp far down the fjord.
10th	Pack up camp. Drive further down the fjord to do some climbing on a seaside boulder field. Drive to Akureyri and wildcamp when it got to late to keep driving.
11th	Finish drive to Akureyri, do a final shop. Visit fosslaugur thermal bath. Drive to west fjords and set up camp near Vadalfjoll mountain crag.
12th	Climb at Vadaljfoll, bouldering and some potential for trad climbing. Setup camp nearby.
13th	Drive to Reykjavik. Climb at classic area inside Reykjavik. Return Pads. Drove to see volcanic eruption in person. Return the cars at Keflavik airport and stay in the airport.
14th	Flight back to Heathrow.

Table (2.1) Table outlining the trip itinerary

2.6 Visas, Permits and COVID

There were no restrictions on travelling to and from Iceland. To enter Iceland, the following steps were followed in accordance with the countries COVID-19 guidelines:

- Provide proof of double vaccination, which all team members can prove.
- Provide proof of a negative PCR or lateral flow test 72hrs before departure.
- Pre-register for entry on https://visit.covid.is/registration/ within 72 hrs of arrival.
- Passport expiry dates must be 3 months beyond proposed stay, UK and French passports don't need a visa.

2.7 Language

The official language is Icelandic. However, almost all speak English (it is a compulsory to learn it in school), as well as another Scandinavian language as well. Therefore we didn't encounter a major language barrier.
We did familiarise ourselves with the pronunciation of place names since they are very particular in Icelandic and it made it easier to communicate where we were going and to respect the local culture.

2.8 Environmental Impact

We rigidly adhered to a Leave No Trace (LNT) policy. This means we took all refuse and rubbish with us in and out of areas and disposing of it in bins at our campsite or at other appropriate designated areas. This also included not shifting around rocks at the base of boulders, as this kind of disruption can accelerate ground erosion. Instead we just placed more pads to make the landing sufficiently safe.
We also drove a bit more than initially expected and acknowledge our additional environmental impact, however we think this was worth doing since taking a broader trip allows us to inform future groups (and ourselves) of the state of Icelandic bouldering.This allows for more targeted trip in the future that are based on specific areas that we thing are of interest to boulderers. Our original trip plan would have involved a comparable amount of driving anyway given the back and forth nature of it.

2.9 Wildlife

The environment and ecosystems in Iceland are fragile, especially on the South coast. It is extremely important to leave the Iceland Moss, Cetraria islandica, that covers much of the landscape alone. It can take up to 100 years to grow back and even a minimal impact caused by our irresponsible action could last decades. It was therefore critical to not clean this moss off boulders under any circumstances. We also took great care to not place bouldering pads on this moss[8].

Figure (2.1) A picture of the delicate Iceland Moss

2.10 Documenting Climbs

The most common way to document climbs in Iceland is the klifur.is[13] website, where users can upload pictures and maps of bouldering locations, in addition to the path the specific climb/route takes up the boulder. We took a geo-tagged picture of each boulder problem that we ascend, and save it with a set of GPS coordinates.

Chapter 3

Finance

3.1 Currency

As of 16/02/2022, the current exchange rate from GBP to ISK is 1:169.11. Regardless, the use of contactless/Apple Pay was widespread and was used for all of our transactions. Due to the lack of fees for paying by card abroad from common banks such as Monzo and Revolut, we did not need to take out cash. If needed, there were ATMs in the main cities which do not charge extra fees depending on your bank, as Iceland is in the EEA.

3.2 Equipment

Equipment expenditure will be reduced by borrowing gear from the Imperial College Mountaineering Club and the exploration board. By the time the expedition left, all members had appropriate personal equipment.
We rented bouldering pads from the Klifurhúsid bouldering gym in Reykjavik which saved us the effort of having to transport pads on the plane.

3.3 Income

We have been approved for funding by the Imperial College Exploration Board. As long as we follow their guidelines and provide them with regular updates, 6 of the expedition team members will receive £850 of funding each if they each either make a financial contribution to the expedition of at least £500, or secure at least £500 from other funding sources. This provides a total of £5100 of funding from this source. Benjamin Jones and Hadrien have not received this funding since Ben is recieving funding for another expedition and Hadrien is not a student of Imperial College London.
We also recieved £3000 of funding from the Old Centralian's Trust.

3.4 Expenses

Expenditure Type	**Expected Cost (£)**	**Actual Cost (£)**
Transport		
Car Hire	4500	3727.7
Upgraded Car Insurance (Gold cover for gravel, sand and ash protection)	-	440
Return Flights LDN to KEF	2400	2480
Large sports equipment transport fees	450	0
Boulder Pad Rental	-	266.74
Parking	-	14.51
Tolls	-	8.80
Accommodation		
Campsite accommodation	975.04	496.7
Donation to Icelandic Bolting Fund	-	10
Consumables		
Fuel cost	427.48	681.83
Food cost	880	757.76
Insurance		
BMC Europe Rock Student Insurance	540	438.32
FFME license	176	196.74
Medical		
Factor 50 Sun Crean	30	30
Personal First aid kits	304	0
Car first aid kit	80	0
Training		
Outdoor First Aid	600	380
Other		
Map of Iceland	11	-
Satellite phone credit	130	-
Wire brushes	15	17
Ladder	-	60
Katadyne Water Filter	-	40
TOTAL EXPENSES	11518.52	10046.10

Table (3.1) A table showing the expected expenditures and the actual expenditures. We ended up spending less money than initially projected largely because we were able to use the first aid kits from the Alaska expedition (which went unused) that happened before us. The First aid training cost was also cheaper than expected since two members already had outdoor first aid training. The cars and bouldering pad rental were also significantly cheaper than expected. This was in part because we got a discount on the pads since we weren't supposed to be allowed to rent two of the pads since they were old.

3.5 BMC Rock Insurance

To allow the serious incident safety plan to be carried out and to provide financial protection for a range of events, the "Rock" travel insurance from the British Mountaineering Council will be obtained for 5 of the 6 team members who are British Residents. Laurene is not eligible for this insurance. Her insurance will be discussed in the next section. A summary of coverage is shown in the table below. Full details of the plan can be found in these two documents[1][2].

BMC Travel Insurance Coverage	
Section	**Cover per person (up to)**
Cancellation or Curtailment Charges	£5,000
Emergency Medical & Other Expenses	£10,000,000
Search & Rescue Expenses	£100,000
Hospital Inconvenience Benefit	£1,000 (£50 per day)
Death	£5,000
Loss of Limb(s)/Sight	£10,000
Permanent Total Disablement	£10,000
Baggage & Passport	£2,500
Baggage Delay (over 12 hours)	£300
Sports Equipment Delay (over 12 hours)	£350
Personal Money & Travel Documents	£750
Personal Liability	£2,000,000
Journey Disruption incl. Airspace Closure	£2,500
Delayed Departure (after 12 hours)	£120 (£30 each 12 hour delay)
Trip Cancellation (after 12 hours delay)	£5,000
Missed Departure/Missed Connection	£1,000
Hijack/Kidnap	£2,500 (£100 per day)
Mugging	£250
Catastrophe	£1,000
Legal Expenses	£50,000

Table (3.2) Summary of the coverage provided by the BMC Rock Travel Insurance

3.6 FFME License

Since Laurene is not a british permanent citizen she is not eligible for the BMC insurance. Instead she will obtain a FFME (Fédération Française de Montagne et d'Escalade) licence as an individual (not in a club) with insurance. It includes coverage for independent bouldering, expeditions and travels related to the insured activities.

3.6.1 Cost

If subscribed to after 1st May, because licences work on an annual basis, the cost of the licence and insurance should be halved. Being above 18, the corresponding fee is "adult". Iceland is part of "rest of world" so it will add an extra 50 euros.
Different levels of insurance exist: base, base + and base ++, covering up to different amounts. "Base ++" seems to be the best option because of the increased coverage it gives and the low difference in cost. The total cost would therefore be: 55.5 (half of

"Base ++ if subscribed to after the 1rst May) + 50 ("rest of world" - includes Iceland) = 105.5 euros (about £88 depending on the exchange rate)[4]. Detailed coverage is shown in the table of the following document (in French): https://www.ffme.fr/wp-content/uploads/2021/06/PACK-REG32501-V0421-BD.pdf.

This insurance above will provide coverage in case of physical damage (covering, amongst others, medical expenses, repatriation). However, it does not cover cancellation, due to COVID-19 related issues for instance. She will therefore subscribe to a cancellation insurance ("Chapka Assurance, assurance Annulation" as detailed in https://www.chapkadirect.com/index.php?action=produit&id=839).

Chapter 4

Diary

4.1 Day 1 - August 1st

On day 1 of the trip, Cyrus, Dom, Will and Hadrien met at the mountaineering club stores to consolidate our equipment and borrow any gear we needed from the mountaineering club. It was also the first time any of the team members (other than Laurene) had met Hadrien in person so it made for a good introduction.

Figure (4.1) A small portion of the huge amount of gear that had to be repacked.

We then spent the next hour unpacking and then repacking the equipment we brought so we could guarantee that it could be brought on the plane. By far the most difficult part of this was figuring out how to pack a ladder and a huge a tarp. We settled on wrapping Will's bag and the ladder up in the tarp and then wrapping that and tying it up with some judo belts. For some reason, Hadrien and Lauren brought many many judo belts

with them which actually turned out to be the mvp piece of equipment of the trip.

Figure (4.2) The final packing solution for the tarp and ladder modeled by Hadrien.

We then traveled to Heathrow airport together where we met Asha and Callum, checked our bags in and boarded the flight. We arrived in Keflavik airport very late and would need to pick up the cars early in the morning so we decided to sleep at the airport. Turns out that many travelers made the same decision as us. We found a nook for ourselves, set up our sleep area and tried to get a few hours of sleep.

Figure (4.3) Our airport sleeping arrangement for the first night in Iceland.

4.2 Day 2 - August 2st

After an early wake up we packed up our gear and took the shuttle to Lotus Cars near the airport to pick up the 2 Dacia Dusters we had booked. We packed our kit into the two cars.

Figure (4.4) The gear that needed to be packed into the Dusters.

We then headed into Reykjavik to do our first bit shopping at a Bonus for food and then to some outdoor outlet stores for fuel canisters for our stoves. We bought an absurd amount

of cheese bread and meat for 7 days worth of sandwiches, some oats for Dom to make everyone porridge in the mornings and some pasta and rice for dinners. The cheapest sandwich meat was unhelpfully called "mysterious meat". This made up about half of our lunch meat supply and would come back to bite us. We also bought a large carton of eggs.

Figure (4.5) Buying copious amounts of cheese.

The Klifurhusid bouldering gym in Reykjavik from which we wanted to rent bouldering pads didn't open until later in the day so we decided to hunt for a hot spring to visit to pass the time. We discovered the Reykjadalur Thermal River was close to Reykjavik and

was free so we drove there. We parked at the base of the trail that lead to the spring. It turned out that it was quite a popular attraction. We walked the hour up the trail to the warm part of the thermal river. On the way our psych overtook us and we found a small, chossy boulder to do a first few climbs on. We also met a nice Norwegian couple on the trail who offered to take photos of use in front of a really smelly sulfurous fumarole.

Figure (4.6) Team photo around the fumarole

These three climbs would mark the first first-ascents of the trip and massively improved morale for the team after the grueling airport experience.

Figure (4.7) The hot spring boulder on which we did the first first-ascents of the trip.

The thermal river was incredible with a wooden walkway built beside it to put your belongings. It was very crowded so we found a spot for ourseleves at the most upstream part of the walkway. It turns out, that the further upstream you are the hotter the water (makes sense inhindsight) and the walkway only went was far as the water temperature was safe.

Regardless of the temperature the hot bath was much appreciated by the entire team.

Figure (4.8) The walkway by the thermal river.

Figure (4.9) The team relaxing in the hot water.

In the afternoon, we drove back to Reykjavik to pick up the bouldering pads and strapped

them to the roofs of the dusters with a mixture of judo belts and ratchet straps. The person at the desk of the gym was also kind enough to recommend a bouldering area currently being developed in Egilsstadir (large city in the east of Iceland). They also said the crags in the north are underdeveloped because people are lazy, not because there is a lack of good climbing, further encouraging us in our quest to find new climbing all around Iceland.

Figure (4.10) Strapping the pads to the cars.

We then finally made our way east along the southern ring road to the Svinafell campsite where we would set up camp and stay for three nights. It was on this drive that we caught the first glimpses of Iceland's gorgeous rugged landscape, seeing waterfalls, glaciers and lava fields. Trip had truly begun.

Figure (4.11) Our first campsite setup at the Svinafell campsite.

4.3 Day 3 - August 3st

We woke up quite late at 9. Filling up on a breakfast of some porridge, we reorganised the back of the cars. Cyrus managed to leak a jar of honey all over the gear in his bag! Luckily we had some time to deep clean the gear. We then began driving to the Svinafell boulders - south from the Svinafell campsite along the route recommended by klifur.is. The roads turned out to be pretty aggressive, nothing that the Dacia Dusters couldn't handle!

We were able to park really close to the boulders, unpacked the climbing equipment, and some food from the cars and made our way to the closes boulder to set up a base of operations for the morning. The first boulder we came to was small and as soon as we set down the pads Cyrus and some other members of the group got their climbing shoes on and warmed up.

Figure (4.12) Our cars parked at the foot of Svinafell near the boulder field.

Figure (4.13) Our cars parked at the foot of Svinafell near the boulder field.

After a quick warm up the rest of the day was spent exploring the more easily accessible boulders at the food of the Svinafell mountain and exploring further around the mountain closer to the glacier where we discovered a monumental, glacier-wethered boulder which we names the foot boulder.

Figure (4.14) Will inspecting the foot for footholds.

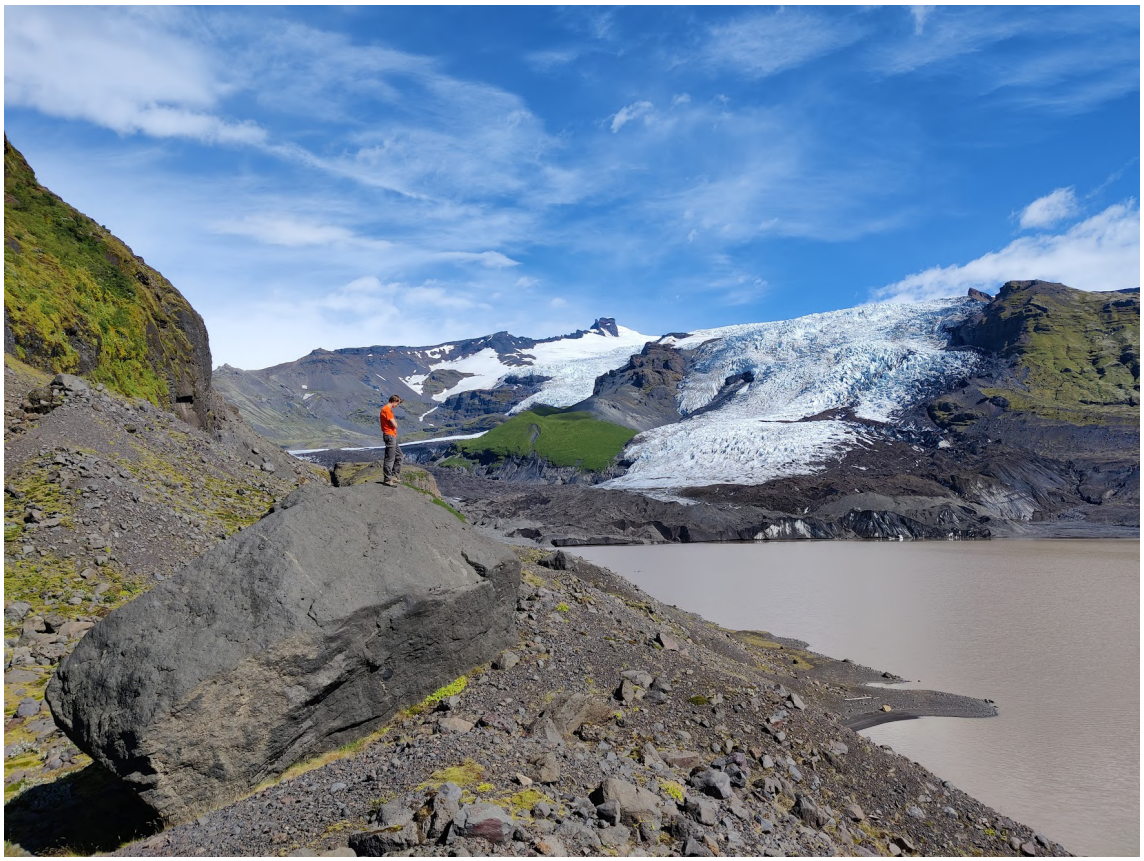


Figure (4.15) The view of the glacier from the foot boulder.

Figure (4.16) Lauren standing proudly at the top of the foot having climbed foot-short.

As for the ascents, Dom FA'd bumper cart 6a on the base camp boulder, followed by climbs Calabria 2022 (a 6c+, mantle to the right of Will-Power) a 7a and Will-Power (a 4c , barefoot, only feet on the rock, nothing else) on a new boulder Camouflage. Opposite was a 45° stone, where Dom did pocket project 6c+, twice, then Cyrus broke the crux hold - rendering the boulder still a project. Cyrus, Asha, Hadrien, Dom did Stemmari 6c as well (on the left). Breaking holds on less climbed areas was something we would have to keep an eye on. As for the main boulder of the day, the foot (alongside the glacier), we did many lines on it: job, loose, Long (5+, Asha), short (4, Lauren).

Our Old centralians funding also came through on this day, which boosted morale and lessened our financial worries. During the car rides, Callum also did some sick freestyling and managed to keep up energy levels whilst on aux during the lunch breaks. This was the first time we sampled the mysterious meat and it would have been an exaggeration to call it food. Cyrus basically refused to eat it and Dom who basically eats anything struggled to get it down.
After we finished climbing, we decided to go for a walk past the foot boulder and explore the area further around Svinafell, toward the nearby glacier. In search of new boulders we persevered down the path until it was nothing more than a slope of loose rocks. Unfortunately there was no was forward once the path disappeared and not boulders that could be seen anyway.

Figure (4.17) The path towards the glacier, on the eastern side of Svinafell.

After a long first day of climbing we returned to camp with sore fingertips to make a hearty dinner and to get an earlyish night.

4.4 Day 4 - August 4st

The other crag in the area that we wanted to have a look at was the area of boulders near the Svínafellsjökull Parking, where we parked in the more eastern lot since the other was closed. Visible from the parking lot we saw a big boulder but coming closer it was chossy and pretty brittle so wasn't worth making lines on it. There were plenty of boulders that we saw on the approach to the bloodstone but they all were made of loose, dirty conglomerate rock so not worth climbing on or trying to clean.

Figure (4.18) The chossy boulders seen on the approach.

We made it to the bloodstone boulders, where we went over a fence, and found the super aesthetic boulder which sat on a hill with a gorgeous view of Svinafellsjokull and its lagoon. Cyrus and Will went up the hill and had a look over the boulder field, whilst Asha and Lauren had a look at some new boulders in the field.

Figure (4.19) Dom and Lauren warming up on the back of the bloodstone boulder.

Hadrien and Dom moved the cars closer to the boulders then we started climbing the bloodstone. The majority of the climbs we climbed (Callum and Dom managing a slopey 7a called Spiritual Athleticism, Hadrien managing a difficult dyno), having many attempts on a 7b also called called Spiritual Athleticism, where we made some good progress on the 7b but had to stop since skin was getting thin and rest was needed for tomorrows climbing. Will FA'd a traverse on the bloodstone boulder (5+).

Figure (4.20) Hadrien trying spiritual athleticism 7b.

By the middle of the day some of the team (Callum) were quite tired from overdoing it the day before so took a quick siesta.

Figure (4.21) Callum seen napping on the bouldering pads.

There was a very big slab higher up on the hill to the left of the bloodstone which would need some cleaning but may be worth going back for on another trip.

4.5 Day 5 - August 5st

After a slow morning and late wakeup, we drove back up to Svinafell boulders. It was meant to be a rest day but we felt inspired, and it is our last day here.
Hadrien, Will and Laurene went to Bone and Mushroom. Hadrian did a 4/4+ first ascent then we installed a top rope with an anchor on the non-slab side, as the boulder had quite a sketchy landing that would probably cause you to hurtle down the hill. The view was great though! We had quite some fun around, Will aided a 4 on the slab, Hadrien did a 4 slab up the middle of bone and mushroom and Laurene did a 4+ on the ride side of the left arete.

Figure (4.22) Will lowering off the top of bone and mushroom to see what routes there are up it.

Figure (4.23) Lauren getting ready to belay Hadrien as they work on the moves on Moss Boss, before the boulder ascent

The rest went to Spiders nest. We cleaned the boulder and starting working on a couple cool problems. FAs if the day include Christmas Spider, a 6b+ by Cyrus; black widow, a 6b+/6c by Callum.

Figure (4.24) The Spiders Nest boulder

Cyrus and Dom walked south west of the large boulder fields to see if there were any worthwhile boulders away from Svinafell, over the other hills, but unfortunately they were either a bit too small, steep, scree landings or just bad rock quality. Also, somehow there's already a spider web on 45 degree board after only one day.

In the afternoon, Hadrien FAed an interesting line on Bone and Mushroom that followed a seam off to the left on the top rope. We spent quite a while cleaning it so named it Moss Boss (we checked for Icelandic moss before cleaning it). Despite the potential fall being scary, progressively the idea of climbing the line without the top rope made its way. After discussing where to put pads and spotters, and a few attempts, Hadrien topped the boulder, quickly followed by Will. Everyone tried it, most got it.

While we packed up our gear at the crag Hadrien went to pick up Ben from the bus stop. They then joined the rest of us at the campsite. We had a quick shower, dinner then drove off

However after only 5 minutes of driving, passengers of one car felt unusual shaking and noise and so we pulled off to a parking spot by the side of the road, not knowing it would become our campsite for the night. We found, quite surprised, that 3 bolts have sheared off on the back right wheel! Cyrus called the Lotus rental emergency time but the mechanic would only arrive the next day. We left the car on the carjack and set up camp near the cars. Hopefully this wouldn't stall our plans for long! Quite an exciting start to Ben's trip.

Figure (4.25) 3 bolts sheared off where the wheel attaches to the car.

Figure (4.26) Lauren keeping up her strength and conditioning

4.6 Day 6 - August 6st

We awoke in our impromptu roadside camping spot to changeable weather. Waiting on the mechanic, restless minds began planning our next move, alongside our daily ritual of porridge and taking in the views. Asha had received a (top secret) tip off about a nearby spa hotel with unguarded hot tubs. Given the weather, this sounded like a very appealing way to start the day.
Discussions loosely resulted in the following half-baked and weather dependent plan: 1. Secure wheels to car using more than a single bolt per wheel 2. Travel to, sleep, and climb in the established Hnappavelir area 3. Scout out glacial runoff boulders and the Fjallsarlon glacier which delivered them to their coastal location 4. Drive onwards to Hofn and the Vestrahorn, where we would camp the following night, stopping off at Jokullsarlon en route 5. Take a day to attempt a long multi pitch to the summit of Vestrahorn mountain, and explore the bouldering at its base 6. Boulder, explore, and take in Fjords, peaks and hot springs as we drive the remainder of the coastal ring road during the rest of our time, travelling to the West-Fjords and returning to Reykjavik ahead of our departure.

Figure (4.27) The mechanic fixing the car

The mechanic arrived mid morning, and shrugged off the near total loss of our wheel at high speed as a common occurrence in Iceland. At last, we were on our way. After a full 10 minutes of driving, we decided to stop and have a shot at Asha's spa hotel heist. With the Oceans 11 soundtrack playing in our heads, we sauntered up to the beautiful glass and metal hotel, past the front desk, and into the (ocean view) hot tubs, pausing only to pick pristine white towels from a conveniently located laundry cart.

Figure (4.28) Team meeting at fosshotel

Asha, not content to only lightly prey on an unsuspecting local business just trying to make ends meet in the wake of a 2 year global pandemic, decided to steal their food, too. The less said on this the better. Warmed and restored, our journey continued to Hnappavelir, taking in the fantastic landscape of Iceland's southern coast along the way. Hnappavelir breaks from the rugged terrain surrounding it, less Icelandic drama- more peaceful UK south coast. Kilometres of 20 metre high cliffs jut from otherwise flat, arable coastal pasture. The climbing here is well established, mostly sport, with some interesting bouldering. A traditional shepherd's hut, recessed beneath surrounding earth (forming the walls) welcomed us when we arrived, and has been converted for climbers to use. We spent the afternoon sampling the gentle sport climbing adjacent to the hut. The roof of a cave close by had some great problems and link ups, which captured everyone's interest well past dark. We cooked and ate in the hut. Grateful for its cosy uniqueness (and the presence of a hangboard), a donation was made to the Icelandic bolting fund.

Figure (4.29) Hut at Hnappavelir

Figure (4.30) Hadrien and his biscuits

Figure (4.31) Will exploring Hnappavelir

Figure (4.32) Some night bouldering

4.7 Day 7 - August 7st

Setting off eastwards along the coastal road, the North Atlantic to our right was blowing in a freezing rain, meeting the plunging slopes of mountains and glaciers to our left. Atmosphere aside, this unfortunately shattered hopes of pulling onto any of the fantastic boulders we found at Fjallsarlon. Scattered like marbles along the shores of the lake, huge boulders, rounded by time and spat out from the glacier, littered the landscape. It was a great shame but an amazing sight. We will be back. The lakes around here are a well known Icelandic destination; innumerable huge icebergs break from the main glaciers and slowly melt away. We spotted seals in amongst the ice at nearby Jokullsarlon. Cyrus REALLY likes seals.

We continued towards Hofn, where we stopped to re-supply, and then on to Vestrahorn a looming dark peak jutting out on a peninsula into the ocean, falling impossibly to vast black sands. Here we stayed at a campsite, eager for an early start for the next days endeavours. Ben set alarms early to give himself, Will, Lauren and Hadrien the best chance against Vestrahorn's eastern flank; a huge multipitch alpine route known as 'Boreal'. Cyrus, Dom, Callum and Asha rested ready for a hard day of bouldering at the base of the mountain. Everyone was excited for morning.

Figure (4.33) Asha excited for the seals

Figure (4.34) Dom and Callum at Jokulsarlon

Figure (4.35) One of the gorgeous boulders we didn't get to climb at Jokulsarlon

4.8 Day 8 - August 8st

Today, the team split into two groups of 4. The boulderers, Cyrus, Dom, Callum and Asha and the multipitch climbers Ben, Will, Lauren and Hadrien. The latter group of 4 wanted to climb the Boreal mountain multipitch trad route that goes up Vestarhorn itself. To do this they started very early to give them enough time to finish the route.
Callum, Asha, Dom and Cyrus woke up at around 9am at the Viking Cafe campsite full of energy, the conditions feeling fantastic. The weather soon turned for the worse with forecasts of light rain in the afternoon. We there rushed a porridge breakfast, got lunch ready and set off for the Vestrahorn boulders. The approach was a gorgeous walk along a black sand beach. Which took us past an "authentic viking village" tourist trap and past that to the first of the Vestrhorn boulders which lay at the foot of the mountain.

Figure (4.36) The beautiful approach to the Vestrahorn boulders

Vestrahorn is a truly enormous bouldering area. We wanted to spend the day trying some hard boulders since this was probably the last opportunity to do so. So, we spent the whole day at the Fish Stone boulders which sat right between the foot of the Vestrahorn mountain and the black sand beach. This was without a doubt once of the best bouldering venues any of us had ever been to.

Figure (4.37) View of the fish stone between the mountain and the beach

The boulderers tried Froggy Time (7A+) sent by everyone, Kex (7C) sent by Cyrus and a very dynamic 7B was sent by Dom. Dom ended up tearing a hole in his skin from the sharp edges of the 7B.

Figure (4.38) Asha climbing Froggy Time

Figure (4.39) Dom climbing Froggy Time

Figure (4.40) Callum climbing the dynamic 7B

Figure (4.41) Cyrus on the last few moves of Kex

At about 3pm the trad climbers were seen coming down the mountain and meet the

bouldering group at the fish stone boulder. Apparently the climbing was far too wet and sketchy so they had to bail. Hadrien was still motivated enough to climb and tried the dynamic 7B but unfortunately didn't send it because of a big hole it torn in his skin as well.

The rain was intermittent throughout the day but the boulder was overhanging enough to be sheltered from it and the rock did not seep. This was a large part of why we stayed in the same place all day.

We bouldered for another couple of hours but once the rain started to get heavier we returned to the campsite to cook a stir fry for dinner. This was definitely the day we tried the hardest boulders of the trip and pushed ourselves physically, having to use good tactics and rest.

Figure (4.42) Callum on the rainy, marshy approach back to the campsite

When we got back to the Viking Cafe it wasn't quite time for dinner so we sat down, had a well deserved beer/hot chocolate. Always really nice at the end of a day. As nice as the Viking Cafe was, there was no designated building to cook in, and with it raining quite heavily in the evening we were relegated to cooking in one of the two bathroom buildings which was, well .... an experience. Lets just say that making stir fry by the sinks of a bathroom block isn't the most appetising way to spend an evening.

Figure (4.43) Our improvised cooking setup in the bathroom

Dom and Cyrus were tasked with cooking some chicken but there was no room in the new bathroom building so they had to move to the old one which smelled pretty awful, contained quite a lot of exposed hot plumbing and was also the area where people were expected to wash their dishes. So while we cooked in the cramped space, we had people filtering in an out wondering what we were doing. One American couple was particularly amused by Dom trying to cut whole chicken breasts in a pan with a spatula while it was cooking.

Once dinner was cooked and washed up we discussed what to do on the following day. The decision was made that if weather was bad in Vestrahorn but could be outrun by going north, then we would pack up and see dry rock. It was a shame to only have one full day there but in the end it was worth having more time to see more climbing areas.

4.8.1 Boreal (Vestrahorn multipitch) from a climbers perspective

Ben, Lauren, Hadrien and Will set off at some ungodly hour (7am ish) (not that bad they just complained a lot) on the long approach to Iceland's tallest multi pitch. The scenery was stunning, we had the black sand beach to our right and the mountains towering into the clouds on our left. We finally arrived at the base of what we thought was the right scree slope and begun our slow ascent.

Figure (4.44) Will and Ben looking very happy at the start of Boreal

About two hours of scrambling later and we finally arrived at a piece of tat which marked the start of the route. Ben set off in his approach shoes up the wet, run out slab and managed to make it to a large ledge where he built an anchor off a bolt and a couple of pieces of gear. Will followed up, taking a few falls which made him very glad Will wasn't leading the pitch, and joined Ben on the ledge. They agreed that they'd probably have to bail, but since they were not far from the next anchor, they may as well see what it looked like. By not far, it turns out we were talking about three metres of very easy climbing, which Will did whilst Hadrien and Lauren climbed to the ledge. Hadrien was

quite psyched to lead the next pitch, but given that it was very wet and climbing any further would have made bailing significantly harder, we decided it was probably best to call it there and lower to the ground.

Figure (4.45) It was starting to get rather wet

Hadrien, Lauren and Will all reached the ground with ease and waited for Ben to abseil down. Little did they know he'd try to kill them. Ben will tell you it was an accident, but Will swears he saw that man hurling rocks down at them. Regardless of what knocked it off, he watched a rock pass between Will and Lauren, about a metre from both of them, and had no shame in admitting that they were absolutely terrified. They were all overcome with relief when Ben reached the ground and was no longer in a position to assassinate them. Now all them had to do was scramble back down the 200m of scree. Only took a few hours. They may not have climbed the route, but at least they all got back alive...

4.9 Day 9 - August 9st

Today was a bit of a late wakeup with. As expected it was very rainy so started packing up our tents. By 1pm the tents were packed, cars filled and breakfast done and dusted. The rock at Vestrahorn wouldn't have dried until afternoon and waiting would have been a waste of time so the plan was to drive to Eglisstadir along the east coast, see the Sugarloaf boulder and a hot spring on the way. We'll get there, maybe check out the football stadium boulders for a bit, have a quick shop then go to Seydisfjordur, a small town in the east fjords, go see the rock and do some FAs in the fjord there. Then we would aim to find a wild camp spot on the side of the fjord for the night. Armed with this plan, we set off with high spirits. On the way we stopped off at Skutafoss (a massive waterfall), took some photos, then got in the car.

Figure (4.46) A nice lil selfie

Figure (4.47) Strange plumbing filled building at the waterfall

While we drove we kept an eye out for potential crags, after many disappointments we soon found a roadside crag which we named Austurlandsvegur (eastern road) boulders. It was hard to miss, the overhanging face had orange, yellow and grey rock on it. Although a little chossy and wet, we checked it out. There was other potential climbing west of the main area but it was too wet to develop. So we did some easy boulders on it just to establish the crag.

Figure (4.48) The bit of rock was right next to the road

We only put up climbs on one small face but there's loads of potential when dry including a huge 20 degree face that's about 10m tall futher away from the road which looks unbelievable.
A rock broke off when Cyrus tried to climb through the overhang which seemed to end his climbing day. The weather was not improving to continue north to escape it. At this point the two cars split up. Dom's car stopped at the Sugarloaf boulder to climb. Hadrien's car continued to Egilsstadir to climb in the area being developed in the town.

Figure (4.49) Sugarloaf, a perfect little boulder with high quality rock and a beautiful venue

Figure (4.50) Callum climbing a 7A on Sugarloaf

We sent all the existing problems on the boulder and then focused on populating the other face with some climbing sending 3 problems up to 7a difficulty.
At the same time Hadrien's car tried the area in Egilsstadir but it turned out to be a bit of an unpleasant venue, being in a small forest behind a football stadium where quite a lot of fly tipping had clearly been done.
They then drop down to Seydisfjordur and found a campsite further down the fjord. Dom's car joined them later i the evening after taking the longer scenic mountain road.

4.10 Day 10 - August 10st

Last nights campsite was absolutely gorgeous and we woke up to gales blowing down from the sea. Dom made porridge, we packed up and set off towards the sea down the southern coast of the fjord. Cyrus found a rocky area on google satellite right on the sea which looked promising for climbing. There was also definitely some potential for deep water soloing in this area. It would have been a great idea if it were not so cold and drizzling that the time. Because of this, it was quite hard to find rock that was 100% dry in the area, we we stuck to climbing easier boulders.

Figure (4.51) Strong winds absolutely battering the tents

Cyrus did some exploring of the area while the rest of the group had some attempts at Tooth Fairy, the project of the day. We left it unfinished because Hadrien took quite a nasty fall off it. The whole area had ban uneven landings so spotters had to be vigilant. Cyrus also informed the rest of the group that he had found a good area of climbing with a vertical wall and some nice pockets. He then proceeded to forget where it was, walk around for an hour trying to find it again and the repeating the same process when he tried to lead everyone else to it. There was definitely a lot more climbing to do in this area so it was a shame we only had 1 day to explore it. By this point in the trip we were all quite tired so a more chill climbing was needed anyway.

Figure (4.52) Ben trying a compressiony, tall problem with of course, another bad landing

Figure (4.53) Tooth Fairy, 4 meters tall with a bad landing

Figure (4.54) A scenic photo of Ben

While we had lunch Dom and Callum wanted to drive down to the town to take a shower

at the campsite there. In the process of doing so, Dom didn't see a ditch in the road and drove right into it. This left the car off the back wheel, sitting fully inside the ditch.

Figure (4.55) The team trying to figure out how to get the car out of the ditch

It took about 30 minute to get the car out. We did so by having most of the team push the car up, then have a few people fill in the ditch with rocks and build a sort of ramp under the wheel. With enough rocks and a lot of manpower, the ramp was build and Dom was able to precariously drive the car out to safety.
Dom and Callum then drove to the town for a shower. They also visited a local pub and discussed travel plans. We agreed that we should do a long drive to Akureyri and wild camp by a spring. We stopped far before the spring off a dirt road because it was dark and the drivers getting were tired. It was a completely random spot on a barren plain. There was no accessible water and we didn't have enough spare to make dinner, so we made some sandwiches and settled in for the night.

4.11 Day 11 - August 11st

This was reasonably uneventful, we woke up in the brutal rocky campsite with not even enough water to make porridge for breakfast. There were swarms of flies absolutely everywhere and on everyhting sincce there was no wind whatsoever. The plan was completely still. We also had no signal at all so we decided to pack up the cars as quickly as possible so we could get on the road to Akureyri. The Hadrien's car drove to a bakery in Akureyri where we met them since we had to stop for some time for Asha to have a video call meeting. When we met them we had a coffee some pasteries and set about doing our last shop of the trip.

Figure (4.56) Cyrus, very pleased with his pastry

Dom's car was in a bit of a state so Asha helped to clear it out a bit and repack it. She also suggested going to Fosslaug, a hot spring near a waterfall on the way to the west fjords.

Dom made porridge in the car park despite being right outside a bakery, this was very curious behaviour.

We went straight to Fosslaugur a hot bath down a dirt road near a gorgeous waterfall and next to a freezing cold river, was nice to go from hot spring straight to freezing river water and back. We also ended up making friends with a Swiss German family who are doing the ring road with the same timing as us.

After we dried up at around 6pm we went to the cars and made some dinner, Hadrien's car ended up buying 1.5kg of fresh cod from a fishmonger when they were in Akureyri, we put it in a chickpea curry and it was absurdly nice. Definitely the best meal of the trip

eaten in a dirt parking lot.

Figure (4.57) The cod and chickpea curry being prepared

Cyrus and Dom filtered and filled up the water bottles, others washed the dishes and Callum and Asha totally repacked the cars making it much more spacious. The other car was apparently terribly packed.

Figure (4.58) Callum off to wash the cookware

We got in the cars went on on our way to a campsite in the west fjords around 3.5 hrs away. We planned to find a wildcamp spot in between but instead we found a very pleasant campsite run by the Hotel Laugar Saelingsdal. On the way Dom's car decided to stop at a service station so we could bursh our teeth (in case we found a campsite without water again) and camp upon a very interesting statue.
¡insert weird statue pic¿
Once we arrived at Hotel Laugar Saelingsdal we set up camp in the dark and the rain (again) and went to bed.

4.12 Day 12 - August 12st

This morning we headed to the Vadalfjoll crag, a huge basalt overhung feature which looks incredible. We follow the directions given on Klifur. After a short approach on a dirt road we leave the cars and hike uphill for a few minutes to the foot of the formation. It was quite windy but the crag and the views (over the fjords) were amazing!
The crag is great, Cyrus and Dom climbed two first ascents on some of the shorter walls. Coming back with more pads or a bolting kit would be incredible since further along the overhung feature the wall get very high, upto about 15m which would make for a perfect sport route length or highball boulder.

Figure (4.59) The Vadalfjoll crag

Some walking around the formation was done and Ben, Will, Hadrien and Laurene decided to try a trad route between basalt columns on the other side. The columns were very mossy and they had to be very careful as to where we placed gear to check the columns were solid. They got benighted and had to bail after the first pitch so leave it as a project.
The others did some pre-established boulders, got very cold, had dinner and found some place to camp shielded from the wind, back down the dirt road. It was a cold night.

Figure (4.60) Asha and Callum looking very cold and unhappy after a long day

Ben, Will, Hadrien and Laurene planned to climb a multipitch up one of the cracks and from there somehow work our way to the summit. Ben led first and found the rock to be much more licheny than expected, so he lowered off from halfway up the crack. Will then gave it a try and made it to a suitable belay ledge and set up an anchor. By the time Hadrien was seconding Will, it was already dark so Ben had been sent back to the car to collect more head torches.

Hadrien made quick work of the first pitch and reached the belay ledge in no time. At this point Will had decided he was cold and tired, Laurene pointed out we weren't in a great position to keep climbing, and Hadrien reluctantly agreed to bail.

Hadrien lowered me off and I retrieved all the gear we'd left with the exception of Ben's blue micro which was determined to walk further and further back in the crack until there was no hope of rescuing it. It turns out no amount of fiddling around with Will's iPhone torch trying to free the cam would help. It didn't stop him wasting fifteen minutes of my life though. Hadrien then abseiled off a sling and a taped up snapgate (à la Alaska) and we headed back to the car.

Hadrien and Laurene made themselves very cosy in the car whilst Ben and Will faffed with the tents. Smart move from them...

This night at camp was the coldest so far with a temperature of about 2 degrees.

4.13 Day 13 - August 13st

We had a much needed lie in on day 13 and finally had all the bags packed by 1pm. Dom made porridge... We aimed to get a bit of climbing in at a local crag in Reykjavik, then drop the pads off, and hopefully make it to the volcanic eruption before we'd have to leave. As we drove to Reykjavik , Dom tricked Cyrus into asking for blinker fluid at a petrol station.
The crag was mega dirtbaggy, but the climbing was alright. Most boulders already had established routes, however in true Dom-style, he made the first ascent of a pointless dyno next to what was quite a nice 7A+ traverse.

Figure (4.61) Climbing at the local reykjavik crag

Ben, Lauren, Hadrien and Will left early to see the volcano, leaving the others to boulder a bit more before returning the pads. After a quick google they realized the volcano was further than expected and we'd get back to the car rental way later than we were meant to. So Ben made some calls... He somehow managed to wrangle an extra 6 hours on both the cars having claimed that we'd been stuck in the notoriously bad (and in no way fictitious) Icelandic traffic. All the car rental man asked is that we give him a good review on trip advisor (and not to tell anyone about this as his job would be on the line). We found somewhere to park and made the long hike up to the volcano. It was so worth it. Everyone was mesmerized. Honestly one of the most amazing things the team have ever seen (second only to Frodo Baggins, who had come to destroy the one ring at mount doom itself). After a few hours of just sitting, soaking in the atmosphere we realized we really needed to get back. So we took a few photos and speed walked back to the car.

Figure (4.62) Frodo and Samwise caught red handed on their way to throw the one ring into mount doom

Figure (4.63) Hadrien's car in front of the ongoing volcanic eruption

Figure (4.64) A photo of the ongoing volcanic eruption

Meanwhile the boulderers dropped the pads off and got a 40% discount thanks to Thuridurr

(the owner of the gym) who very graciously opened the gym for us since they ended up trying to return the pads when the gym was closed! They then bombed it to the volcano and said it was 'cool'. We reconvened at the car rental place and finally unloaded all of our stuff. The shuttle driver reluctantly made two trips to the airport for us (who knows how he expected everything to fit in at once). We made camp in the airport along with half of Iceland and managed to get all of 2 hour's sleep before the mega chaos of a 6am check in.

4.14 Day 14 - August 14st

After an abrupt wakeup and 2 hours of sleep, we checked in and boarded the plane. Most people slept through the flight. Supposedly you could see the volcano out the window but we were all mega tired.
We got back to Heathrow, said our goodbyes at baggage reclaim and went our separate ways. Collectively dying from exhaustion when we got back home.

Chapter 5

Conclusion

Looking back on the trip, we think we did many things right. Our equipment selection was spot on. We negotiated some prices to reduce costs where we could. Used all resources available to us to find interesting places to go and of course climbed a whole lot of boulders. However, we definitely could have selected some better wildcamp sites on one night with better access to water. Oh and to never buy any Icelandic mystery meat again.
Otherwise we think that the trip was a huge success having achieved all of the goals we set out to accomplish.
This trip has inspired some members of the team to one day go back to Iceland for more targeted trips to the West Fjords in particular. This are of Iceland is far more remote and with much less developed climbing, therefore will require a team with more experience overall to pull off. But, given the quality of the climbing and the venue at Vadalfjoll, we have clearly only scratched the surface of the bouldering in the West Fjords. The north coast and the east are also very much worth exploring more however would make for a less adventurous trip so may be more feasible for a less experienced team. We would also encourage any other groups looking to go climbing in Iceland to do since since there is still a wealth of new climbing to be done of all styles. The climbing in Iceland is certainly on par with the outstanding natural beauty and the kindness of the people.

Chapter 6

Acknowledgements

We would like to deeply thank the Exploration Board and Old Centralian's Trust for giving us the funds to pursue this once in a lifetime opportunity, without which it would have been impossible. We would also like to that the Imperial College Mountaineering Club for providing much of the equipment and teaching its members the skills needed to execute this kind of trip.

Chapter 7

Contact Us

If you wish to contact the expedition team for more information please contact the Expedition leader Cyrus Goodarzi Using the following methods:

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Email: c.goodarzi@gmail.com

Appendix A

First Ascent Documentation

This section documents the boulders that we newly establishes as a team, including their location and topos of the boulders. For new bouldering areas, the GPS coordinates of the area are given, otherwise the klifur.is link is given. For each climb, the correspond number on the topo is given as wel as the font boulder grade, name of the first ascentionist and a description if applicable.

A.1 Hotspring Boulder

This boulder can be found by the trail that leads to the Reykjadalur Hot Spring Thermal River.

Figure (A.1) GPS Coordinates: 64.044100, -21.219228

1 - Silver Springs, 5+, Dominic Rusch, *Sit start.*
2 - A spring in your step, 6A, Hadrien Ville
No number - Dom's downclimb, 3+, Dominic Rusch, *Climb up the back of the boulder.*

A.2 Svinafell

Htps://www.klifur.is/crag/oraefi

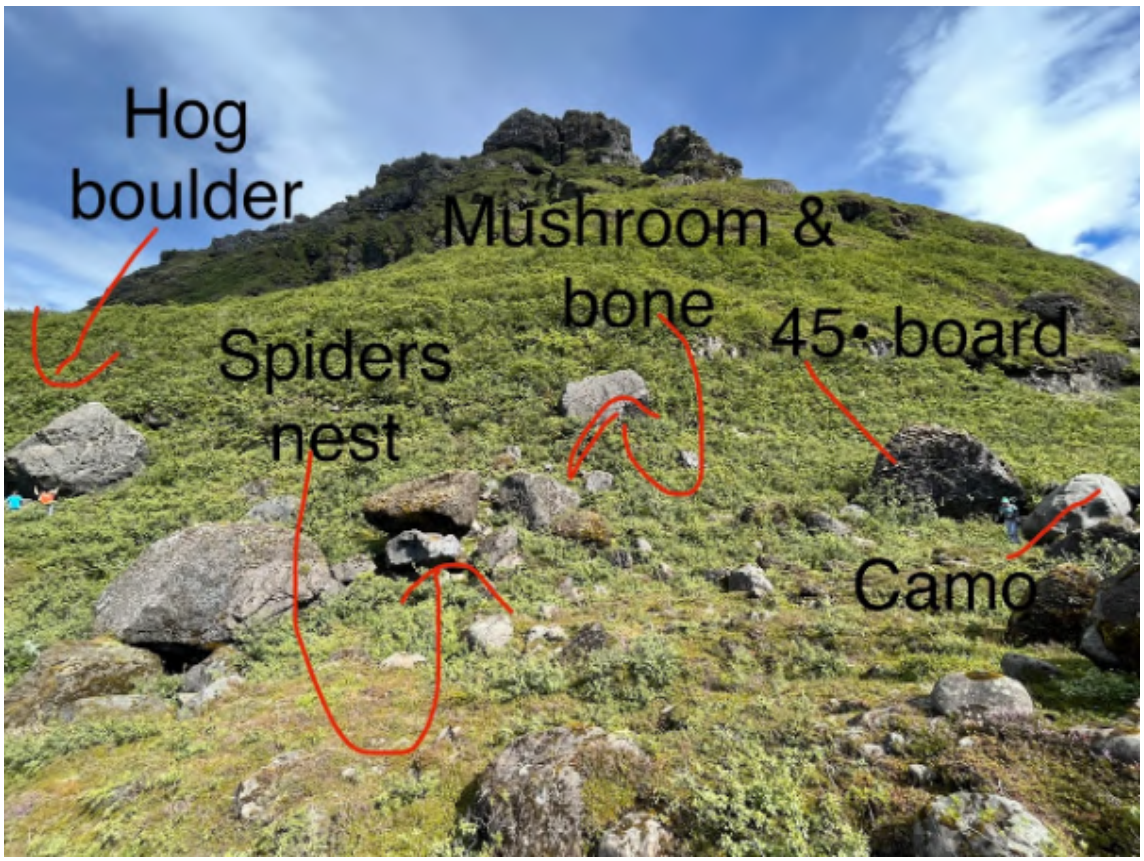

Figure (A.2) A tpop of the Svinafell area

On the Camo Boulder:
Calabria 2022, 6C+, Cyrus Goodarzi, *Mantle the side of the boulder facing the 45 degree boulder.* Willpower, ungradeable, Will Lovette-Turner, *starting at the base of the obvious slab on the camo boulder get to the top barefoot, no hands, no head, no knees and must start the boulder like this as well*

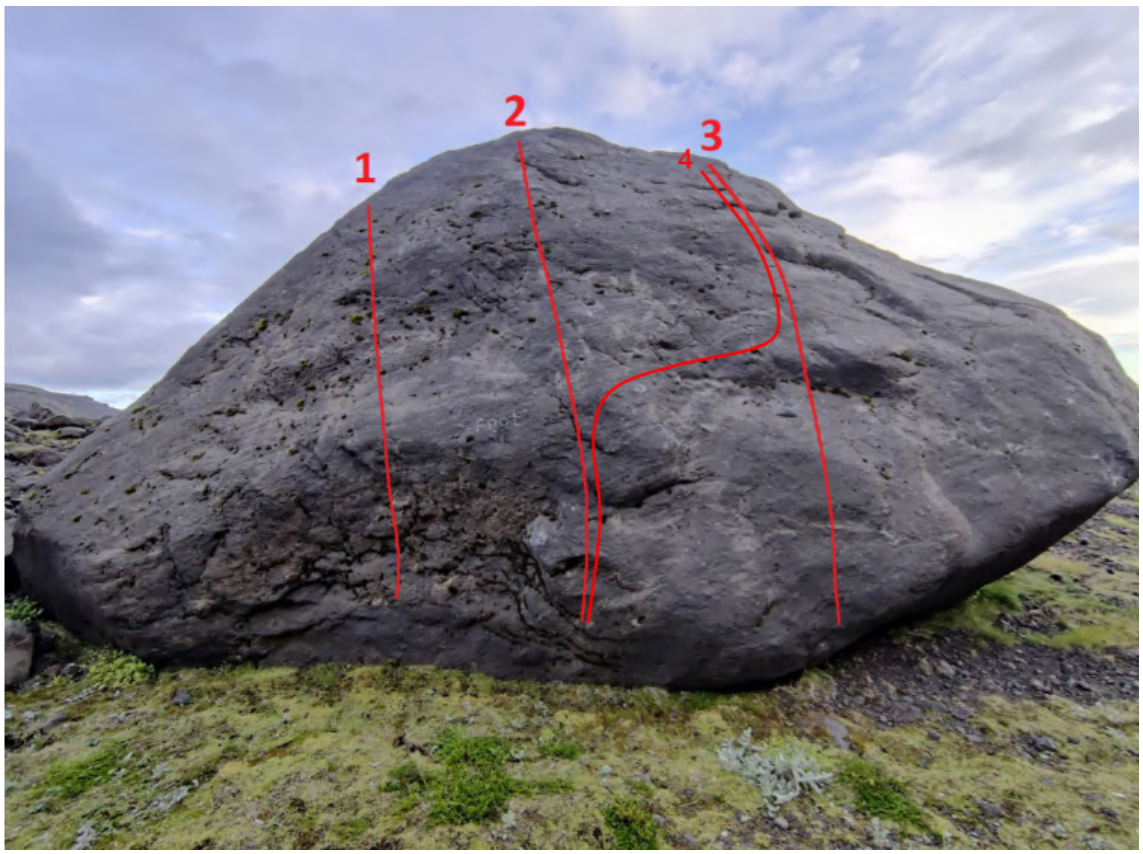

Figure (A.3) The Foot Boulder

1 - Bare Foot, 6a, Will Lovett-Turner

2 - Happy Feet, 5, Hadrien Ville

3 - Sweaty Feet, 6A, Dominic Rusch, *Use the small feet to directly climb to the top in a straight line.*

4 - Big Foot, 5+, Hadrien Ville

No number - Footshort, 4, Lauren Ville, *Traverse from the middle of the left lip on the back of the boulder to the bulge then climb to the top.*

No number - Footlong, 4+, Asha Bakhai, *Starte further down the lip and link into Footshort.*

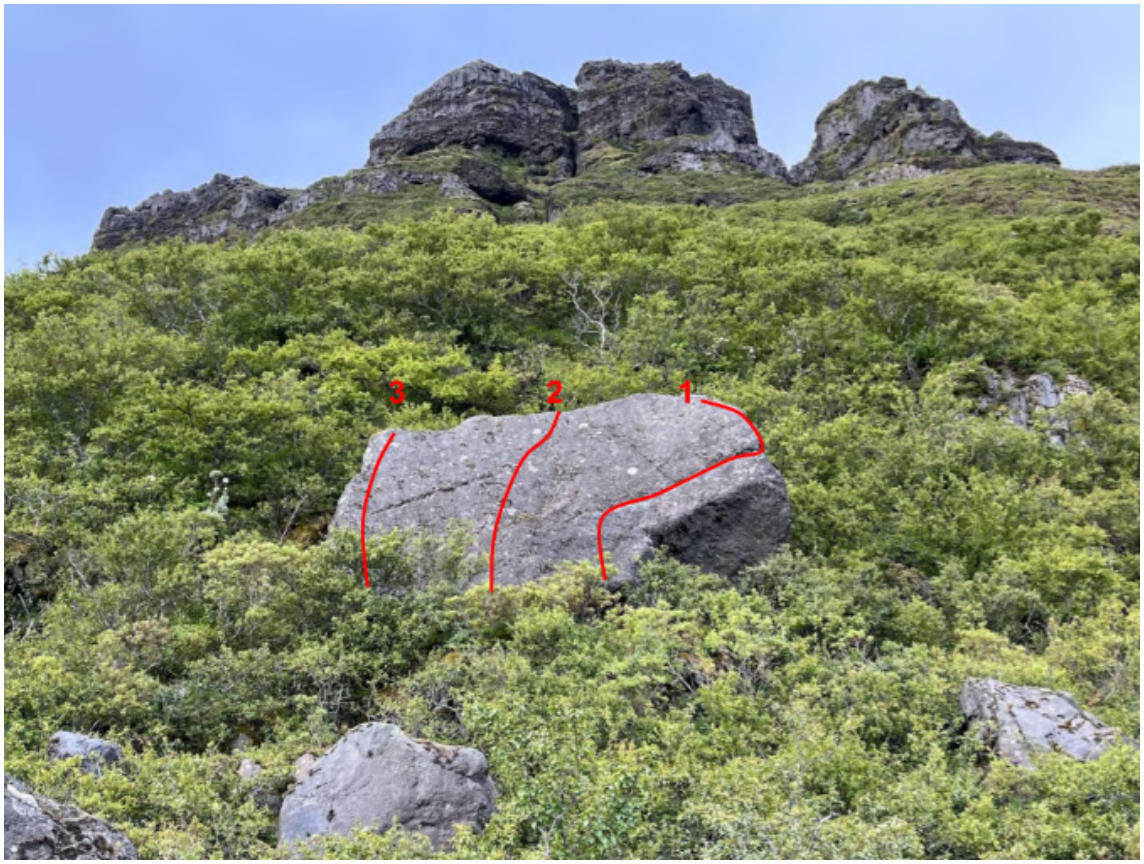

Figure (A.4) The Mushroom and Bone Boulder

1 - Moss Boss, 6B+, Will Lovett-Turner and Hadrien Ville, *Amazing line, follow the horizontal seem to the left keeping feet low.*

2 - Dead bird tells no tales, 4, Hadrien Ville

3 - Chépa, 5, Laurene Ville

Figure (A.5) The Spiders Nest Boulder

1 - Christmas Spider, 6B, Cyrus Goodarzi, *done without the block at the back for feet, done by getting right heel on and then going with right hand.*
2 - Black Widow, 6B+/C, Callum Hargrove

A.3 Skaftafell

Https://www.klifur.is/crag/oraefi

Figure (A.6)
Dichotomy, 4, Dominic Rusch, line 1

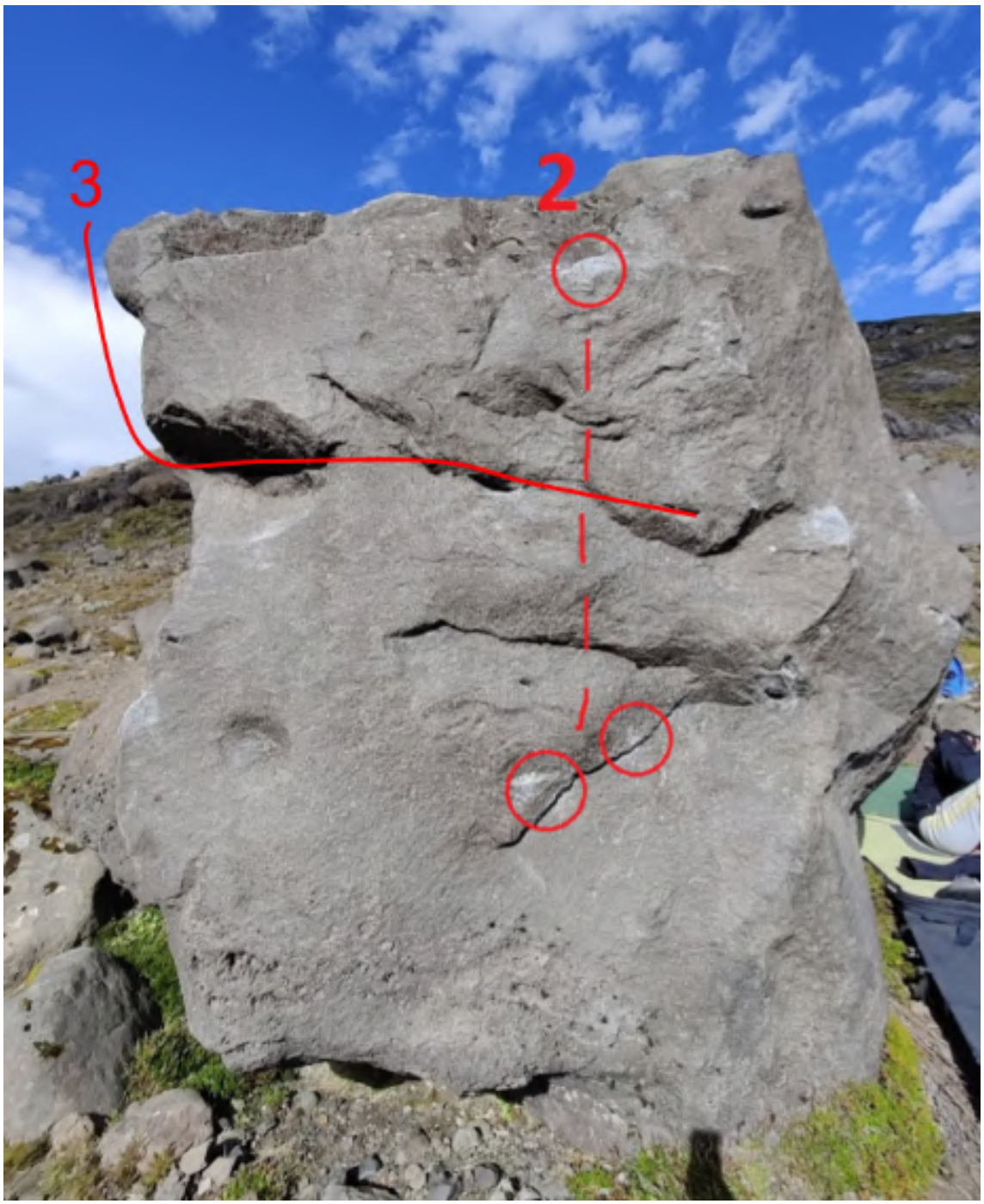

Figure (A.7)

Bop It, 6C+, Dominic Rusch, line 2. *From the undercut crimps, go directly to the top.*
Cheap Crack, 5+, Hadrien Ville & Will Lovett-Turner, line 3

A.4 Hnappavellir

Hhttp://www.klifur.is/crag/hnappavellir

Figure (A.8)

Dank Crank, 6C, Dominic Rusch, line 1. *From the good undercling in the cave, reach the edge on the break and ascend to the large blank wall.*

A.5 Austurlandsvegur (eastern road) boulders

GPS Coordinates: 64.420497, -14.722319

Figure (A.9)

Stairway to Devon, 3, Dominic Rusch, line 1

Figure (A.10)

Good climbs, bad rhymes, 5, Dominic Rusch, line 2

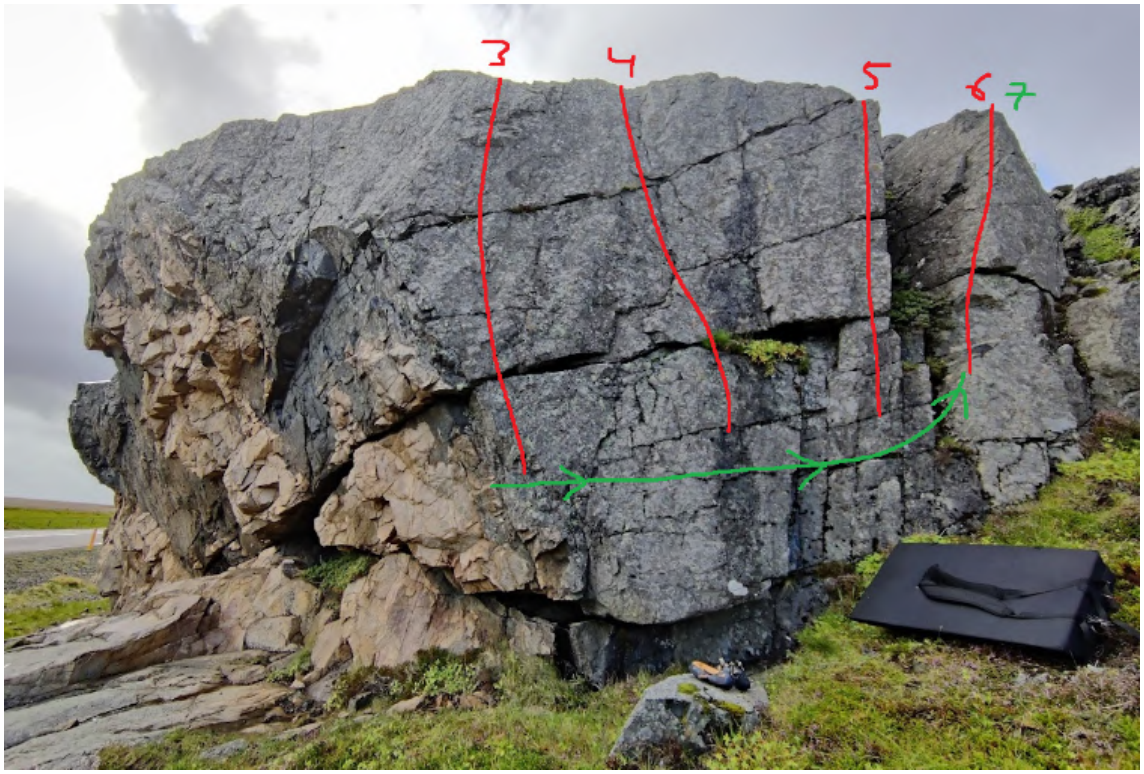

Figure (A.11)

When the jelly bakes, 5+, Dominic Rusch, line 3. *Use the cracks and crimps towards the top to climb the right side of the lower arete.*
Slidely Noodle, 5, Cyrus Goodarzi, line 4
Grazed and bruised, 4+, Dominic Rusch, line 5. *Use the arete and face features to topout.*
The Silk Ladder, 5, Asha Bakhai, line 6
The Silk Road, 5+, Laurene Ville, line 7

A.6 Sykurmolinn (Sugarloaf) Boulder

Htp://www.klifur.is/crag/arnarbolshjalli

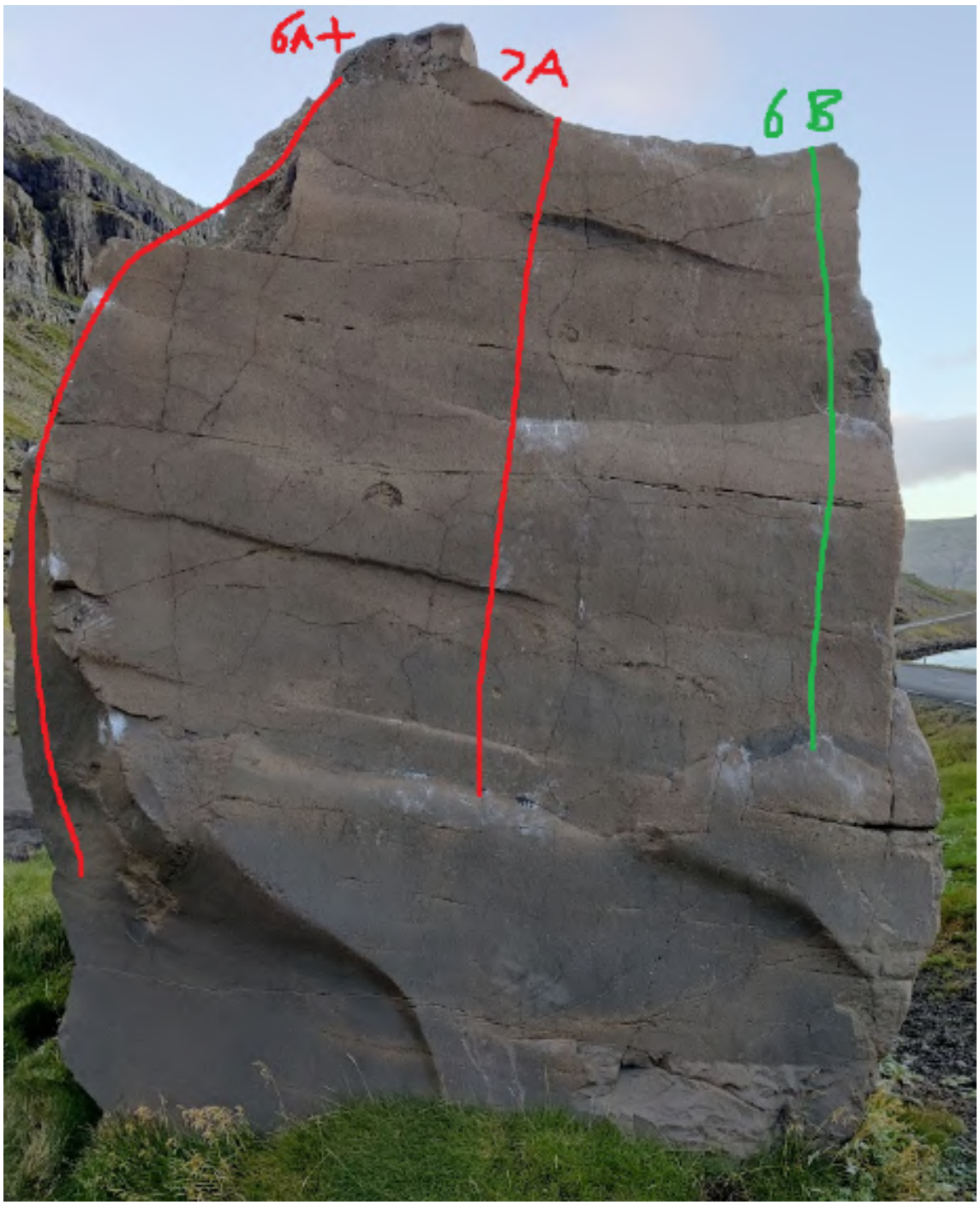

Figure (A.12)

Not my juicer, 6A+, Dominic Rusch. *Compress the arete to reach the intermediate ledge and topout.*

Taller than the trees, 7A, Dominic Rusch. *Navigate the small crimps to directly climb the face.*

Ocean Diet, 6B, Callum Hargrove.

Figure (A.13)

Not my juicer, 6A+, Dominic Rusch. *Compress the arete to reach the intermediate ledge and topout.*

A.7 Egilsstadir

Figure (A.14)

Erlkönig, 4, Laurene Ville, line 1.
Erlkönig direct, 5, Ben Jones & Will Lovett-Turnerm line 2.

A.8 Seydisfjordur

GPS Coordinates of the new sector: 65.288038, -13.786140 We established a new sector of this area which is minimally documented at Htps://www.klifur.is/crag/seydisfjordur.

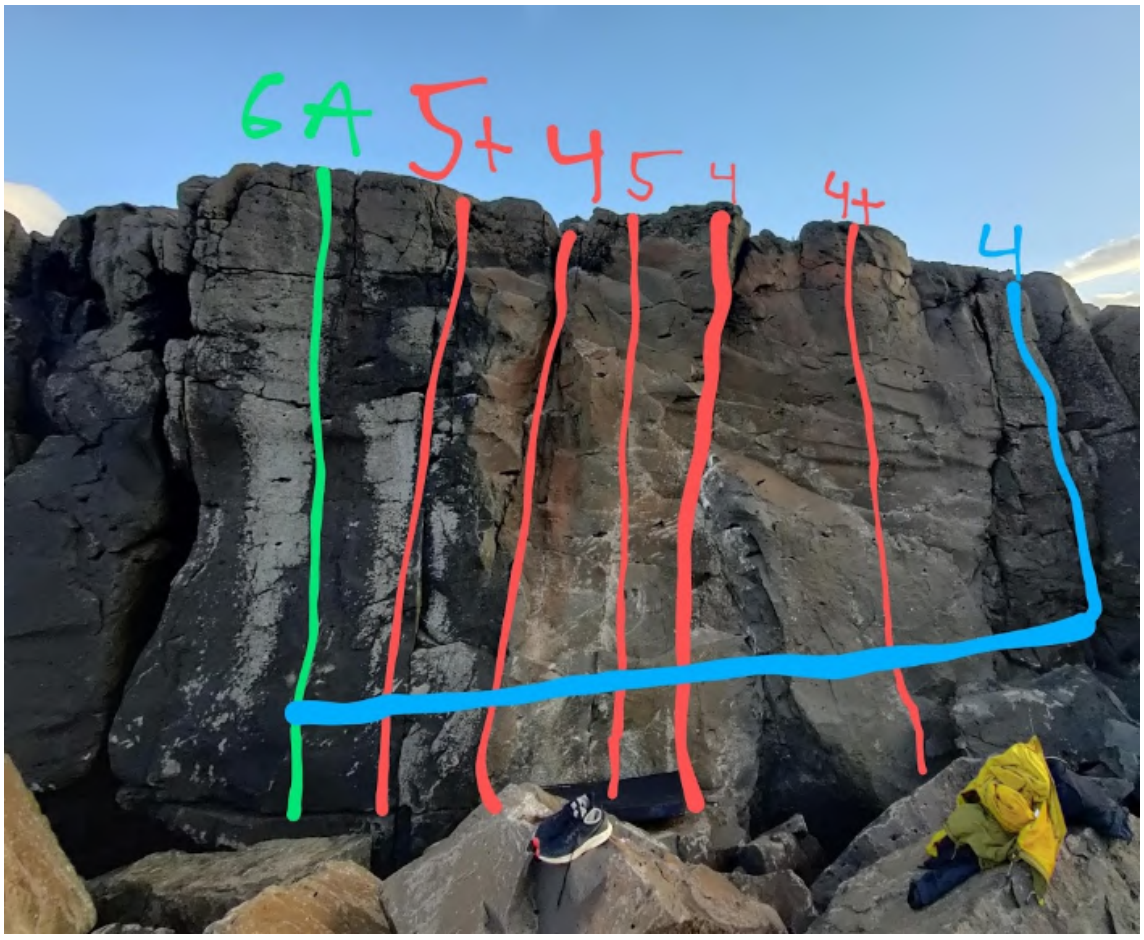

Figure (A.15)

From left to right:

Fjord Mustang, 6A, Will Lovett-Turner
Fjord Focus, 5+, Dominic Rusch
Fjord Ka, 4, Dominic Rusch
Fjord Fiesta, 5, Dominic Rusch
Fjord Galaxy, 4, Dominic Rusch
Fjord Mondeo, 4+, Dominic Rusch
Fjord Transit, 4, Asha Bakhai

Figure (A.16)

Sketchy Sneakers, 3+, Dominic Rusch

A.9 Vadafjoll

Htps://www.klifur.is/crag/vadalfjoll

Figure (A.17)

Benighted, 7A, Dominic Rusch. *From the small seam, climb directly up the pockets and topout on slopers.*

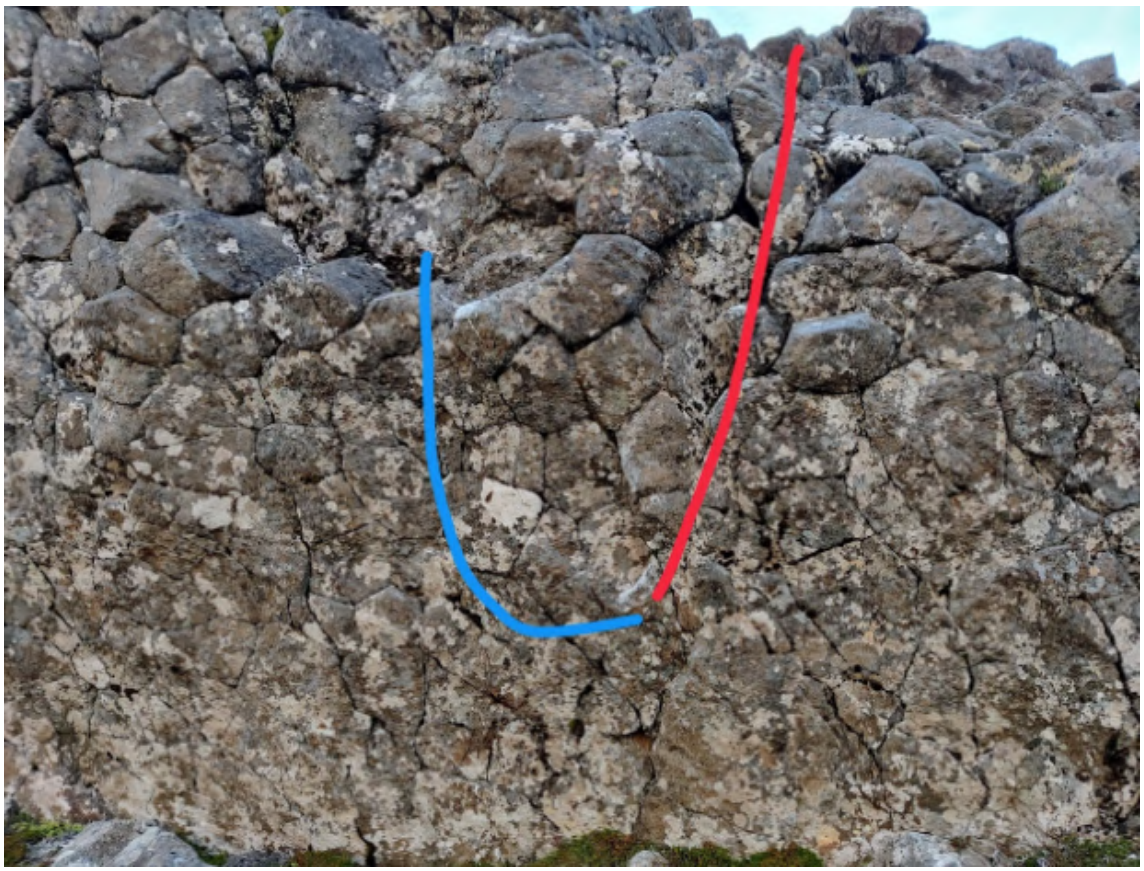

Figure (A.18)

Red line: Tip tap, 6A, Dominic Rusch
Blue line: Unclimbed project

A.10 Oskjuhlid (Local Reykjavik bouldering)

Https://www.klifur.is/crag/oskjuhlid

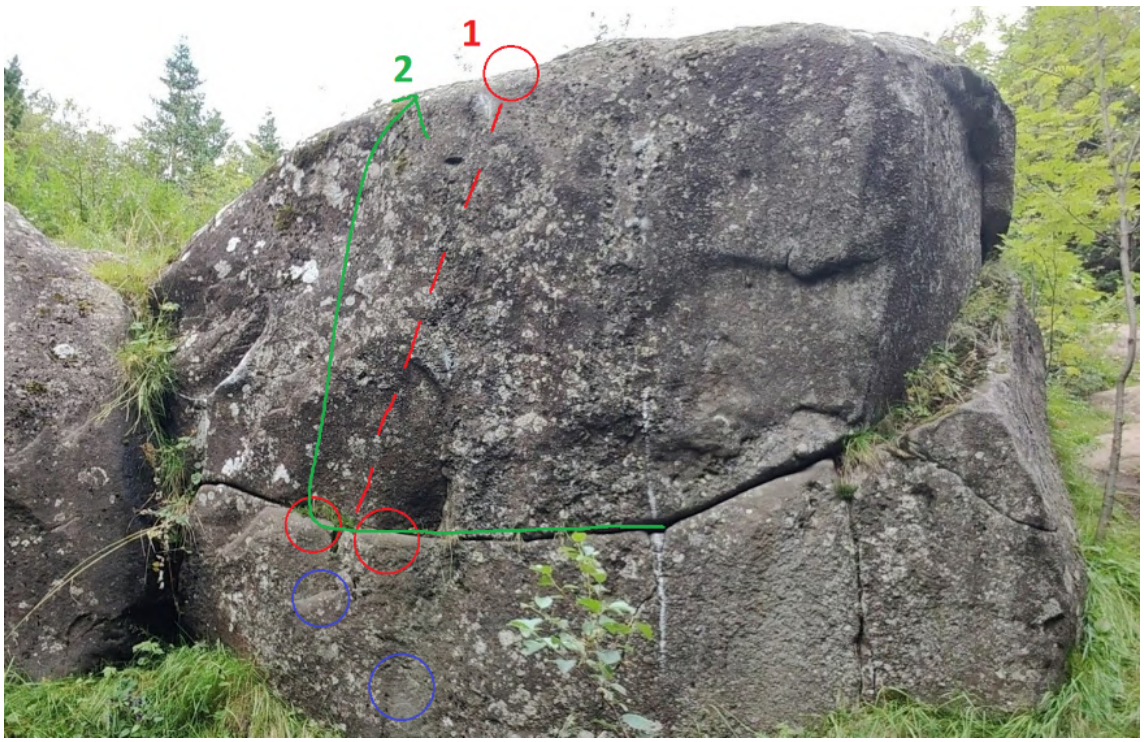

Figure (A.19)

Super Mega Dyno 3000, 7A+, Dominic Rusch, line 1. *From the low break, dyno to the top. (Red hands, can use blue feet + hands).*
Bomberman, 6B+, Dominic Rusch, line 2. *Traverse from the central break to finish up the left side of the boulder.*

Appendix B

Equipment

B.1 General Equipment

B.1.1 Clothing

It was important we take appropriate clothes for the cold,wet days and even colder nights. We will brought base layers to wear whilst climbing, since down or synthetic jackets might become ripped by the rock, and so should not be worn whilst bouldering. Adhesive patches can be taken to make any repairs to damaged jackets required, to prevent leakage of their insulating filling. Waterproof items are to be needed, due to the large amount of rainfall expected.

B.1.2 Camping and Sleeping

We'll camp in three tents (two three persons and a two person), which will be sourced from Imperial College Union clubs. Due to the cold temperatures at night, three-season rated sleeping bags will be required. Synthetic insulation would be ideal due to the high chance of wet weather. We will also need ground mats to protect us from the cold ground and provide additional comfort, as well as a light pillow each.

B.1.3 Personal Equipment List

List of basic equipment that each person brought with them.

Personal Equipment List	
Nutrition	Food and water (mentioned in consumables), 3 x camping stoves, fuel for stoves
Clothing Essentials	T shirts, jumpers, trousers, comfortable clothing for evenings (tracksuits, spare t shirts), underwear, socks, spare shoes, baselayers
Cold/wet weather clothing	Softshell trousers and hardshell jacket, gore tex boots, down jackets/synthetic insulating jackets, beanie, 2x pair of gloves
Technology	Phone, 2+ portable chargers, cables
Camping	Sleeping mat, 3 season sleeping bag, pillow
Other	Large walking/rugged luggage (40-60l) with bag liner, smaller backpack for day trips, head torch, dry bag, lightweight towel, toiletries, sunscreen

Table (B.1) Personal Equipment List

B.1.4 Team Equipment List

List of non-climbing equipment required by only one member of the team.

Team Equipment List	
Cooking:	Food (mentioned in consumables), 2l water bottles, thermos/mug, spork, bowl/plate
Navigation	Map, compass
Camping	4x two-person Tents
Extras	Patches for torn down equipment, first aid kit, umbrella, camera, nail file

Table (B.2) Team Equipment List

B.2 Climbing Equipment

B.2.1 Bouldering Mats

We will take a bouldering mat per 2 people with us in order to provide ample protection when climbing. It will be useful to have multiple bouldering mats since some climbs may require more than one mat to protect them. We will also bring doormats so we can clean our climbing shoes before getting on the rock, in order to ensure we do not inadvertently start the process of polishing holds.

B.2.2 Climbing Shoes

Climbing shoes are also an essential part of the expedition as they will enable us to climb to our maximum level. Everyone should have at least one pair of high-level technical climbing shoes. It is important that these shoes are not too new and so require breaking in, as this will limit the amount of climbing. Similarly, the climbing shoes should not be too old, as this may cause a hole to wear through on the rubber and rand of the shoe.

B.2.3 Chalk

We will take climbing chalk to remove the moisture from our hands when climbing, which will improve the friction with the rock. To leave as little trace of our climbing expedition as possible, we will brush off any chalk marks to the best of our ability.

B.2.4 Rock Cleaning

A portable telescopic ladder will be used to make sure that the rock quality of the routes we want to climb is adequate. We will inspect each problem before we climb it to ensure the holds are unlikely to break off (potentially causing injury), and we can also brush dirt or loose debris off the rock, if it is in the way of a potential climbing route using a wire brush. Also, we'll bring a 10mm single dynamic rope (max 30m), 2x harnesses, a set of nuts and a belay device for building anchors on larger boulders, rappelling down them to clean them. We will not clean plant life off the rock, and avoid the more vegetated areas.

B.2.5 Cooking and fuel

We wish to request two MSR-XGK stoves (or alternative multifuel stoves) from the Imperial College Exploration Board, where the second stove will act as a spare in the event the first one fails. For cooking, we will take 2 chopping boards, 2 ladles, 2 wooden spoons, 2 large knives, and 2 large and 2 medium-sized pots. A knife, spoon, fork, wide bowl,

and metal heat resistant enamel mug will also be taken per person. There will be water bottles to store water used for cooking.

B.2.6 Other

For warming up shoulders and upper body: theraband and portable hangboard (with carabiner). We will bring large portable flashlights for miscellaneous night activities. For skin recovery, we will take skin balm, climbing (sports) tape, and files.

Appendix C

Medical

This section will consider any risks to the health and wellbeing of expedition participants, as well as provisional steps to mitigate these risks, in addition to practical and logistical considerations in the event of a medical emergency.
Whilst not exhaustive, an attempt has been made to summarise key areas of concern and ensure adequate provision for avoidance, treatment and evacuation.
The regions we intend to visit are remote but remain accessible. We have decided that all plans will be subject to change depending on conditions, and evacuation options will form a key part of these decisions. Remoteness adds a significant degree of risk to medical emergencies, however this is unavoidable given the scope of the expedition. We will therefore aim to maximise opportunity for successful evacuation by:

- Procuring adequate insurance
- Carefully following advice of local authorities (Mountain rescue, HEMS, local authorities)
- Monitoring weather
- Ensuring emergency communication is always at hand (satellite link telephone, emergency beacon)

C.1 Minor Injury

Minor trauma is a likely occurrence and will hopefully be treated in the field, within the scope of practice of participants, using our medical kit. It is conceivable that some minor trauma may require more advanced interventions, but in the majority of cases (e.g. injury requiring extensive cleaning, minor musculoskeletal injury) further medical attention can wait for a few days without major consequence. Some minor injury may have a more acute timeframe requiring immediate attention (e.g. ophthalmological complaints). In these cases we will follow our major trauma plans.
In the town of Hofn, a medical centre may be accessed for minor injury or illness (2 hours driving).

C.2 Major Trauma

The risk of major trauma in mountain sports is unavoidable. However, we can mitigate these risks and increase survivability of any incident through careful planning. This will involve undertaking appropriate training, carrying appropriate major trauma equipment (collars, binders), and adherence to our major incident plan.

C.3 Environment

Environmental exposure is a major concern. Aside from planning to avoid poor conditions, care must be taken to ensure appropriate clothing and shelter. For this reason we have carefully considered the advice of guides and appropriate agencies when compiling our kit and packing lists. Primary risks include hypothermia and associated circulatory complaints, sun exposure and burns, and dehydration. Foil blankets and spare clothes will be carried in case of emergency.

C.4 Other

Pre-existing conditions will be self-managed and participants have been advised to contact their GP if they have any concerns regarding their health and the expedition. Medications should have some redundancy and this may involve carrying additional supplies of essential medications in multiple bags. If necessary opaque sealed bags could be provided for discretion. Reversible conditions with life threatening potential (diabetes, serious allergy) should be disclosed and a personal plan created in case of emergency.

C.5 First Aid and Medical Equipment

We hope that all or most of the participants will acquire relevant first aid training prior to the expedition, giving some redundancy of basic skills. We may also pursue more advanced courses and teaching in austere environment medicine if funding is available. Multiple basic first aid kits should be carried at all times within the team, in addition to larger first aid kits (1 per party) to include basic trauma provision and medications.
we will have groups of a minimum of 2 people, ideally 3 to allow for more effective spotting. Groups should also remain in rough line of sight of each other. If a group wishes to move away from the others, they must let the others know where they are going and estimate for how long. This allows the other team members to check in on a group that has gone missing. Being in groups of at least two also means that no-one is ever alone, having been injured.
The First Aid Kit below is used as an example (carried by the author on a previous expedition) and will be updated based on competencies and needs. We plan to draft a final medical and first aid document in consultation with contacts including qualified expedition doctors.

Personal First Aid Kit Contents		
Medications		
Item	**Amount**	**Indication**
Paracetamol 500mg	16 tablets	Mild analgesia for headaches etc. (max. 1g every 4–6 hours, max. 4g per day)
Ibuprofen 200mg	16 tablets	Mild analgesia and anti-inflammatory for musculoskeletal injury (400mg every 6 hours)
Personal Medications		
Equipment		
Item	**Amount**	**Indication**
Dressing Scissors	1	Cutting bandages
Crepe Bandage 5cm × 4m	1	Compression for sprains and strains
Gauze, 8 ply, 5cm × 5cm	5	Absorbing blood and cleaning wounds
Open Woven Bandage 5cm × 5m	1	Securing dressings
Micropore Surgical Tape 1.25cm × 9.14m	1	Fixing bandages and dressings
2% Chlorhexidine Sachet Wipes	5	Cleaning wounds and killing bacteria
Low-Adherent Dressing 5cm × 5cm	2	Dressings for cleaned wounds
Assorted Plasters	20	Plasters for minor wounds
Blister Plasters	2	Plasters for blisters
Alcohol Hand Sanitiser 200ml	1	Maintaining hand hygiene and mitigating the impact of limited sanitation
Sun Cream 200ml	1	Protection against sunburn
UV Lip Balm	1	Protection against sunburn
Whistle	1	Signalling for help and indicating location

Main First Aid Kit Contents		
Medications		
Item	**Amount**	**Indication**
Paracetamol 500mg	16 tablets	Mild analgesia for headaches etc. (max. 1g every 4–6 hours, max. 4g per day)
Ibuprofen 200mg	16 tablets	Mild analgesia and anti-inflammatory for musculoskeletal injury (400mg every 6 hours)
Loperamide 2mg	60 tablets	Anti-diarrhoeal (4mg, then 2mg after each episode of diarrhoea – usual dose 6–8mg per day, max. 16mg per day, max. 5 days)
Movicol 13.8g		
Loratadine 10mg	**42 tablets**	**Non-sedative antihistamine for allergy (10mg OD)**
Dioralyte	12 sachets	Oral rehydration salts for dehydration (1 sachet in 200ml water per episode of vomiting/diarrhoea, supplemented with homemade oral rehydration solution using salt and water (6 teaspoons sugar, 0.5 teaspoons salt in 1l water))
Ciprofloxacin 250mg	54 tablets	Antibiotic for prolonged diarrhoeal illness (>3 days) and UTI (500mg BD for 3 days for diarrhoeal illness and for female UTI)
Flucloxacillin 250mg	120 capsules	Antibiotic for cellulitis and wound infection (250–500mg QDS, 5 days usually sufficient)
Equipment		
Item	**Amount**	**Indication**
Tweezers	1	Removing splinters and debris from wounds
Safety Pins	20	Securing bandages, bursting blisters
Nitrile Gloves	4 pairs	Improve hygiene when dealing with more serious wounds
EMT Utility Scissors	1	Cutting bandages, plasters, etc.
Small Plaster Fabric Strip 4cm × 1m		
Large Plaster Fabric Strip 7.5cm × 1m	1	Plaster strip which can be cut to size
2% Chlorhexidine Sachet Wipes	28	Cleaning wounds
60ml Sterile Gallipot	3	Hold boiled water for cleaning deep wounds
Micropore Surgical Tape 2.5cm × 9.14m	1	Fixing bandages and dressings
Zinc Oxide tape 2.5cm × 9.2m	1	Immobilisation of joints
Gauze, 8 ply, 5cm × 5cm	22	Absorbing blood and cleaning wounds
Burn Gel Sachet 4g	4	Relieves pain and helps to prevent infection with burns
Medium Wound Dressing 12cm × 12cm	6	Dressings for cleaned wounds
Low-Adherent Dressing 5cm × 5cm	4	Dressings for cleaned wounds

Low-Adherent Dressing 5cm × 5cm	4	Dressings for cleaned wounds
TraumaFix Dressings	2	Dressings for major haemorrhage
Wound Closure Strips	12	Strips placed over wounds to close them
Would Closure Solution	1	Glue used to close head wounds
Open Woven Bandages 7.5cm × 5m	6	Securing dressings
Crepe Bandages 5cm × 4m	2	Compression for sprains and strains
Crepe Bandages 7.5cm × 4m	2	Compression for sprains and strains
Triangular Calico Bandages 90cm × 90cm × 127cm	2	Slinging broken arms
Flexible Splints	2	Splinting fractures
Stretcher	1	Movement of immobile casualty
Ice Packs	3	Reduce swelling in sprained or fractured limbs
Eye Pad Dressings	2	Dressing for injuries to the eye/orbit
Eye Wash Pods 20ml	3	Solution for cleaning eyes
Foil Blanket	1	Retention of heat in hypothermia
Pulse Oximeter	1	Measure heartrate and oxygen saturation to aid diagnosis of HAPE
16G Venflon Cannula (Grey, 1.8mm × 45mm)	2	Emergency decompression of tension pneumothorax
23G Needle	2	Draining wounds
50ml Syringe	2	Draining wounds, emergency decompression of tension pneumothorax

C.6 Accident and Evacuation Plan

Emergencency services (112) are dispatched centrally in Iceland, and we should be accessible through some combination of mountain rescue (Icelandic Association for Search and Rescue) and road ambulance. The nearest and only major trauma centre is the Landspítali University Hospital, Fossvogur (near Reykjavik). A road ambulance to here from our intended location(s) is likely to take around 3 hours to arrive. A closer large hospital offering 24 hour emergency care (without major trauma status) exists almost an hour closer in Selfloss. Icelandic coastguard maintains HEMS capabilities and can dispatch physician staffed helicopters from Reykjavik for treatment and transfer.

BMC insurance covers the cost of Emergency Medical & Other Expenses and Search & Rescue Expenses after an accident.

In case of injury which cannot be safely resolved through first aid alone, or illness that is not safely self-treated using medications given or under a patient group directive by a medical professional, evacuation and medical attention will be necessary. Our emergency and evacuation plan detailed below is a worst-case scenario plan. Also provided a rough logistical guide to emergency healthcare provision in the region. In practice the nature of an evacuation will depend on severity of the injury/illness, remoteness, time sensitivity etc. For example, a badly sprained ankle nearby a road would require medical attention at the nearest hospital but may not merit involvement of emergency services.

Our expedition areas will fall under the remit of members of the Icelandic Association for Search and Rescue. They provide search and rescue (SAR) capabilities and are dispatched at the request of emergency services (112). Helicopter SAR/emergency medical services

are available and dispatch from Reykyavik. Road ambulance should be available within 3 hours to the nearest road to any of our objectives or bases. In the event that hospital level care is needed, we assume that our immediate actions will not be informed by which facilities may be appropriate. If SAR/road ambulance evacuation is underway, the relevant agencies will be able to convey the patient(s) to the most appropriate facility. If we decide to self-evacuate, we can assume that facility decisions will be made once at the roadside, most likely with signal and communication with emergency services. We will always seek professional advice if possible (112, insurer hotline) before we decide to undertake our own evacuation or if we are unsure if hospital treatment is necessary.

C.6.1 Plan (adapted from the author's previous expedition)

Step 1: Initial Response

- Initial assessment of casualty as per competency. This may include BLS and some additional non-invasive steps (i.e. haemorrhage control techniques, spinal stabilisation).
- CABCDE assessment:
  - Catastrophic Haemorrhage Control
  - Airway (and cervical spine control where appropriate)
  - Breathing and Ventilation (with oxygen where available)
  - Circulation and Haemorrhage Control
  - Disability or Neurological Deficit Extremity / Environment / Exposure
- **Call for help (112) as soon as possible (using satellite phone if necessary)**
- See 2A if contact with emergency services has been established. If self evacuation is necessary: Is the casualty conscious and able to move safely? If so, go to step 2B Otherwise, step 2C.

Step 2A: Communicating with, meeting, waiting for, and following instructions of emergency services

If contact is established with emergency services, communicate clearly the situation, cause and timeline of events and interventions, current assessment, and recommendations (this will be prompted by the receiver. Also consider communicating specific terrain and landmark features, ground conditions, and the status of other team members. Update receivers as necessary.
Step 2A will follow instructions of emergency services. This may involve sheltering in place and keeping the patient(s) stable and warm, transfer to more accessible/sheltered terrain or closer to a road, or some guided interventions. Use of an emergency beacon, torches, whistles and bright clothing may aid SAR efforts. Go to step 3 prior to evacuation.

Step 2B: Mobile Casualty

Call for help (112) as soon as possible (using satellite phone if necessary)

- You have assessed the situation; formulate a plan and act upon it.
- Discuss the plan with the casualty, but consider the extent of his/her injuries and factor this into how much they contribute.
- If separated from other team members, consider whether their assistance is needed, and how far away they are likely to be.
- If their help is needed and they are within earshot, send out a distress signal by sounding six sharp blasts with a whistle. Repeat this every minute until you hear six whistle blasts in return from the other expedition team members.
- If you are unable to use a whistle, then send out six flashes every minute using a head torch.
- If you detect a return signal, continue sending out the distress signal so those responding can pinpoint your location.
- If it becomes dark, try to use both a head torch and whistle as this will make it easier to pinpoint your location.
- If you receive no response, continue to send out the signal
- Continue to assess the ability to get to your destination (this is likely to be the closest vehicle, the location of the main first aid kit, or the location of the satellite phone). Remember, a tired, injured casualty can easily become an immobile or a dead casualty.

Step 2C: Immobile Casualty

Call for help (112) as soon as possible (using satellite phone if necessary)

- Don't try to be a hero – it requires real manpower to move an injured casualty.
- Movement of the causality will require one of the cars, and the help of other team members is likely to be needed.
- Movement may also require the spinal board, and this will be a necessity if a spinal injury is suspected.
- Stay where you are and apply all your efforts to keep the casualty alive. Sound six sharp blasts with a whistle. Repeat this every minute until you hear six whistle blasts in return from other team members.
- If you are unable to use a whistle, then send out six flashes every minute using a head torch.
- If you detect a return signal, continue sending out the signal so those responding can pinpoint your location.

- If it becomes dark, try to use both a head torch and whistle as this will make it easier to pinpoint your location.
- If casualty in pain, give the analgesia carried in the personal first aid kit.
- Get the casualty into shelter if necessary.
- Apply first aid.
- For a cold and/or wet casualty, wrap them in the foil insulation blanket from the main first aid kit, then a down jacket, then a sleeping bag if available. Erect a tent if possible.
- Make sure you're also warm enough and eat and drink plenty.
- Continually assess the casualty and document these assessments on the chart in the first aid kit; this information will be very important once evacuated.

Step 3: Medical Assistance and Evacuation

- Document the following to communicate to medical staff or when consulting the medical helpline:
- Accident/illness description
- Clinical description:
  - Conscious level - AVPU
  - Airway
  - Breathing – respiration rate, depth
  - Circulation – bleeding, skin colour, pulse rate/rhythm
  - Disability – obvious injuries
  - Treatment given (e.g. splinting)
- Establish casualty priority:
  - Priority 1A Immediate evacuation from the accident area if possible
  - Priority 1B Immediate evacuation but can transfer from accident area
  - Priority 2 Urgent evacuation
  - Priority 3 Evacuation needed soon
  - Priority 4 Evacuation not needed, advice required
  - Should evacuation be required, follow the evacuation procedure.

Step 4: Post-Incident

- Each team member will write a personal report.
- Document the list of decisions made with approximate times and locations. Use the list to discuss how you felt prior to, during, and after the incident.
- Complete Imperial College incident reporting form.
- If required, speak to UK contact to discuss incident.
- Any major incidents will involve a full debriefing on return to London.
- Debrief to be led by expedition leader.

C.6.2 Self Evacuation Procedure by road

Step 1: Obtain Medical Advice If Required

- If medical advice is required, call the Intana Global Line on +44 20 7902 7405 (emergency helpline provided by BMC insurance).

Step 2: Evacuate by car

- If needed, strap the casualty onto the spinal board and attach a cervical collar.
- Evacuate casualty by car
- Drive carefully, especially if dark, and avoid further accident.
- Follow medical advice and plan any further action (e.g. transfer, return to UK).
- While evacuating, proceed with steps 3 and 4.

Step 3: Contact Insurance Company

- Call insurance company (BMC, +44 (0) 1623 631331
- Inform them of the need to obtain medical attention, and give details including:
- Assessment/diagnosis of the casualty
- Treatment and transfer plans

Step 4: Contact Imperial College

- Leave message with Imperial College Security on +44 20 7589 1000, who will contact Dr Lorraine Craig.
- Include:
  - Casualty location
  - Your location
  - Medical/physical action being taken

- If you have not spoken to insurers, instruct home contact to establish contact with and brief insurers

Insurance Company (BMC), +44 (0) 1623 631331, To contact if in a situation where a claim will need to be made. Imperial College Security, +44 20 7589 1000, To contact as part of the incident response protocol to inform Imperial College of the incident. UK Home Emergency Contact TBD To contact if emergency assistance from the UK is required

C.7 Emergency Contacts

The international dialling code for the UK is +44, and for Iceland is +354.

Service	**Telephone Number**	**Purpose**
UK Emergency	**999**	To contact for emergencies in the UK
Iceland Emergency	112	To contact in an emergency, police or medicine related
Satellite Phone Number	TBD	To provide to emergency services
Medical Emergency Helpline (Intana Global Line)	+44 20 7902 7405	To contact for emergency medical advice
Insurance Company (BMC)	+44 (0) 1623 645308	To contact if in a situation where a claim will need to be made
Imperial College Security	+44 (0) 20 7589 1000	To contact as part of the incident response protocol to inform Imperial College of the incident
British Embassy in Reykjavik (Urgent Assistance)	+354 550 5100	To contact if legal difficulties, etc.
French Embassy in Reykjavik	+354 575 9600	To contact if legal difficulties, etc.
UK Home Emergency Contact	TBD	To contact if emergency assistance from the UK is required
Mechanics UniCars Bílapjónusta Bílaverkstaedi Gunnars Pálma ehf	 +3546494979 +3544782041	To contact the nearest mechanics in the case of car breakdown

Table (C.1) Emergency contacts

C.8 Medical Facilities

Always call 112 first in an emergency. Hofn
Heilbrigdisstofnun Sudurlands
Nearest health clinic, open from 8am to 4pm and closed on weekends
Address: Víkurbraut 31, 780 Höfn í Hornafirdi, Iceland
Telephone: +3544322900

Selfloss
Heilbrigdisstofnun Sudurlands
Nearest hospital with 24-hour emergency care
Address: Árvegur, Selfoss, Iceland
Telephone: +354 432 2000

Fossvogur
Landspitali University Hospital
Nearest MTC
Hringbraut 101, 101 Reykjavík, Iceland
+354 543 1000

Appendix D

Risk Assessment

Hazard	**Potential consequences**	Chance	Severity	Risk	Precautions to mitigate
Minor traumas (athletic injuries eg. Fingers, elbow)	**Pain, infection**	4	2	8	Be aware of surroundings, sufficient rest days, warm up, use tape; disinfect and use plasters
Terrain, walk-ins, river crossings	Sprained/ broken ankle, bruises	2	3	6	Be careful where we step, follow paths, use appropriate shoes that cover ankles, move down river if current is too high. Take regular breaks
Major traumas (fall from potentially high boulders)	Serious injuries which can result in disabilities	2	4	8	Use bouldering pads with a well-thought configuration, check pads before leaving, be aware of the medical procedures
Climate/rapid weather change	Hypothermia, dehydration, sunburns	2	3	6	Take enough layers, drink plenty of water, use protections (hat, sunglasses, sunscreen) if sunny; waterproof clothing. Be prepared to turn around if necessary
Remote location	Getting lost	2	3	6	Carry GPS, never going alone, inform other part of group where we are going
Diarrhoeal/ Vomiting Disease	Dehydration, tiredness	1	3	3	Cooking food thoroughly, drinking plenty of water
Respiratory illness (pneumonia, Covid 19)	Difficulties breathing, general fatigue, sore muscles, headache	2	2	4	Cover sufficiently, daily check-ins, carry meds; check where local hospitals are if necessary
Covid 19 outbreak	Not being able to depart/ getting stuck in Iceland	2	3	6	Check updates on the situation, all are vaccinated

Hazard	Potential consequences	Chance	Severity	Risk	Precautions to mitigate
Unstable boulders, rock fall	**Minor or major trauma (especially if head hit)**	1	4	4	Be careful about where we climb and check surroundings
Car accident	**Minor or major trauma**	1	4	4	Only drive if not tired, respect all signs and only go on a road if the car is suited for it
Car failure (eg. Flat tires, other parts failure)	Being stuck in potentially remote areas	2	3	6	Spare tires, knowing how to change parts, contact of mechanics
Tent breakage/ fire	No more shelter for the night	1	3	3	Never use stove/make fire close to tents
Volcanic eruption/ seismic risk		1	4	4	Check forecasts regularly, be aware of procedures and safe places. Keep phone on to receive alerts from Civil Protection

Table (D.1)

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