



## Ritt Kellogg Memorial Fund Registration

Registration No. SJ8T-F5B47

Submitted Feb 1, 2023 8:47am by Graham Webb

### Registration

Jul 1, 2022-Feb  
1, 2023

Ritt Kellogg Memorial Fund

#### **RKMF Expedition Grant** Group Application 2022-23

*RKMF Expedition Applications due by Noon* Feb 1, 2023 11:00am-11:59pm

This is the group application for a Ritt Kellogg Memorial Fund Expedition Grant. In this application you will be asked to provide important details concerning your expedition.

In addition to this Group Application, **each team member must submit an Individual Application**. All Group Applications and Individual Applications must be received by 1st Wednesday of Block 5 at noon.

For more information, example applications, proposal writing tips, and further guidance, please visit <https://www.coloradocollege.edu/other/rittkelloggfund/grants/expedition-grants/overview.html>

If you have any questions please email Kacie Bell, Outdoor Education and Ritt Kellogg Memorial Fund Coordinator, at [kbell@coloradocollege.edu](mailto:kbell@coloradocollege.edu)

**Waiting  
for  
Approval**

Feb 1,  
2023  
8:47am

### Participant



**Graham Webb**

### Expedition Summary

#### What is the name of your proposed expedition?

Rock Climbing in the Bugaboos

#### If you have an alternate name for your expedition, please list it here.

Revvin' Up the Bugaboogati: Justa Bit o' Banta in the Bugaboos

#### Briefly describe the objectives of your expedition.

"Revvin' Up the Bugaboogati: Justa Bit o' Banta in the Bugaboos" will be an adventure among close friends and longtime climbing partners. Our goal is to continue to safely have fun in big terrain while moving efficiently and exploring alpine granite in a beautiful wilderness location that many of us have never visited. We have planned this trip as a large group in order to have the opportunity to climb with several partners in the alpine, selecting routes to match our own strengths and excitements, with safety forefront in our adventures.

NE Ridge of Bugaboo Spire  
Snowpatch Route  
Becky Choinard  
Solitary Confinement  
Divine Intervention  
All Along the Watchtower

**Briefly describe the location of the expedition.**

"The Bugaboos" of the Bugaboo Provincial Park, Purcell Mountains, British Columbia, Canada.

The "Bugs" have been recommended to our group by many alumni and fellow climbers. Their reputation precedes them. This trip will be a good opportunity to undertake challenging yet safe alpine climbing objectives. The Bugs are known for being excellent in both rock quality and overall climbing quality. We are excited by the once-in-a-lifetime opportunity to travel to a region that holds such a plethora of potential adventure and self discovery. It is the perfect place for us to apply our longtime partnerships and climbing experiences while also finding solitude and good companionship in the wilderness.

**Date that travel to the expedition will start.**

Jul 25, 2023

**Date that your team will enter the field.**

Jul 27, 2023

**Date that your team will exit the field.**

Aug 9, 2023

**Date that the last team member gets to their home location.**

Aug 11, 2023

**How many days will your team be in the backcountry?**

14

**How does your planned destination provide a "wilderness experience," and how will your expedition offer solitude and promote self-reliance and grit?**

Bugaboo Provincial Park is a breathtaking wilderness location containing rock spires, known as granodiorite batholiths, in a region of the continent that will be a new adventure for most of us. Bugaboo Provincial Park is a rock climber's paradise, and one of the premier destinations for rock climbing in North America. The Bugaboos offer a range of granite terrain, far away from civilization. The park's stunning wilderness, with its glaciers, alpine meadows, and turquoise glacial lakes, provides an unforgettable backdrop for our adventure.

Our camping locations are fully in the backcountry, and will require a resupply in order to sustain the length of our trip there. This, along with carrying heavy loads at high –but not exceedingly high– altitudes, will be a test of personal endurance for everyone. The climbing will be the fun part, and challenging in nature as we seek to travel efficiently and carefully over many pitches.

Even though our location will be less than four miles on a rugged trail from a dirt road, it is still very much wilderness in character and access to rescue services. While rescue is possible, unpredictable weather and the nature of the rugged terrain in Bugaboo Provincial Park makes it no easy outcome. We will have to be fully self-reliant, as we are climbing completely in the backcountry. The Kain Hut, although developed by humans, serves to protect the character of the wilderness by lessening the spread of impact from hikers and climbers traveling up the trail. We do not plan on staying there or benefitting from any services that run contrary to wilderness character.

**Participant Qualifications****Expedition team member information**

Erik Aagard - [REDACTED] WFR expiration: 1/25/2024  
 Will Taylor - [REDACTED] WFR expiration: 1/25/2025  
 Jake Arculli - [REDACTED] WFR expiration: 1/25/2025  
 Luke Letscher - [REDACTED] WFR expiration: 8/1/2023  
 Graham Webb - [REDACTED] WFR expiration: 1/19/2024  
 Story Wolf-Tinsman - [REDACTED] WFR expiration: 7/24/2024

**Does your team have adequate experience?**

Yes

**Describe your team's training plan to solidify or improve technical skills, physical conditioning, and team dynamics prior to the start of the expedition.**

This spring, Story expects to get stronger in the gym and in the South Platte. She plans to spend the summer climbing a great deal of alpine granite in Colorado, Washington, Idaho, and California. She will be working in the backcountry, staying active at high elevations for the duration of the season. She would like to put an emphasis on longer routes with sustained lines as her goal is to move efficiently and effectively while having fun in the Bugs.

Jake and Will will prepare for the trip by taking weekend trips to the Black Canyon of the Gunnison, attempting some of the routes listed below. They will also frequently visit the South Platte, and once conditions permit, spend some time in Rocky Mountain National Park. The planned training routes are listed below:

Astrodog, 14 pitches, 5.11+, Black Canyon  
 Childhood's End, 12 pitches, 5.12-, South Platte  
 Positive Vibrations, 11 pitches, 5.11-  
 The Original Route, 14 pitches, 5.12-

In the spring and early summer Story, Graham, Luke, and possibly other members of the team hope to complete some of the listed alpine routes together:

-Southwest Corner of the Saber, 8 pitches, 5.10b, RMNP  
 -Pervertical Sanctuary, 6 pitches, 5.11a, RMNP  
 -Dream of Babylon Burning, 9 pitches, 5.10b/c, RMNP  
 -Acid Baby, 7 pitches, 5.10+, 4 pitches, 5.11a, Central-East Cascades,  
 -Solid Gold, 4 pitches, 5.11a, Central-East Cascades  
 -Mithril Dihedral, 6 pitches, 5.9+, High Sierra  
 -Sun Ribbon Arete, 22 pitches, 5.10a, High Sierra or Dark Star, 16 pitches,  
 5.10c

Luke really likes to climb and mountain bike. So, he will spend the spring climbing in the South Platte, with one of his main goals being to complete both Whimsical Dreams (11b) and Childhood's End (12a). He also plans to climb extensively in the gym and strengthen his body to prevent injury. He will also continue to mountain bike and trail run in order to prepare his legs and lungs for a summer full of adventures in the alpine.

Story, Luke, Jake, and Will, being less familiar with snow travel, will be applying for an Education Grant and participating in a Crevasse Rescue and Glacier Travel course in the spring to be prepared for travel hazards in the Bugs.

**Expedition Logistics, Equipment, and Food****Briefly describe how each expedition member will travel from home to the trailhead and back again.**

Our plan is to drive 2 cars with 3 of us each from [REDACTED] the Bugaboos. We will stop in Bozeman, MT after the first day of driving and camp on BLM land. The next day we will drive from there to the free Bugaboo Septet campground, where we will spend the night. The next morning we will hike up to Appleebee campground and begin the expedition. We will reverse this process at the end of the trip.

We are breaking our drive up into manageable pieces so that we are not driving while fatigued, keeping us safe in the travel section of our trip.

**Upload a detailed day-by-day itinerary, beginning when the first team member leaves home.**

[REDACTED]

**Please paste a URL to your complete digital expedition map.**

<https://www.gaiagps.com/map/?layer=GaiaTopoRasterFeet&loc=13.3/-116.7942/50.7422&pubLink=qH6WPHjtw8k7rbGp7DMtm2be&folderId=ae7b1356-177d-437a-b4c7-0b1e3d4973c5>

**If you have plans to re-ration during the expedition, describe the plan below**

We plan to re-ration on day #8 of our expedition, which is day #6 in the field. We will bring 6 days worth of food up with us when we initially hike up to Applebee campground, and then we will go back down to the cars get the rest of it on the re-ration day. It is a short 3 mile hike with some steep vertical hiking, but it is very manageable to go down to the cars and back in one day. Especially with 6 people to distribute the load, we feel that this will be a simple resupply.

### **Describe how you will protect your food from wildlife.**

At the Applebee campground and at the East Creek bivy there are metal trees that are there for you to hang your bags on to protect them from the marmots. In the Bugaboos, the marmots are the main wildlife concern to food. We will use the bag trees at all times when we are not actively with our food, in order to protect it from wildlife.

### **Upload a detailed food list with budget numbers and show hoe it meets the caloric needs of the expedition.**

[RKMF 2023 food list DONE.pdf](#) (38KB)

Uploaded 1/31/2023 10:09pm by Graham Webb

### **Upload a thorough equipment list.**

[Equipment List.pdf](#) (51KB)

Uploaded 1/31/2023 10:11pm by Graham Webb

### **Upload a first aid kit list.**

[First Aid Kit.pdf](#) (47KB)

Uploaded 1/31/2023 10:11pm by Graham Webb

### **How will you limit and leverage your impact on this trip?**

All of us have experience practicing the Leave No Trace principles in a backcountry environment. We all deeply care about minimizing our impact in alpine environments and actively encouraging our peers with less backcountry experience to follow LNT guidelines and do important research about the impact that hikers and backpackers, skiers, and climbers have in the backcountry. It is very important to consider specific LNT guidelines for the region one is traveling in.

For our trip, we have outlined some specifics we will follow under the seven principle LNT framework:

**Plan Ahead and Prepare:** We have done hours of preparation for this trip and much of it is documented here. Additionally we have reviewed the Bugaboo Provincial Park website and their backcountry camping guidelines as well as the Strathcona Wilderness institute LNT wilderness ethics document for all British Columbia parks.

**Travel and Camp on Durable Surfaces:** While in the park we will be hiking on established trails, snow, and glaciers only. We will set our basecamp at the established Applebee campground and will likely pitch our tent on rock or snow. These efforts will minimize our impact on fragile alpine soil.

**Dispose of Waste Properly:** For the duration of the trip, we will keep track of all our trash, storing it in backcountry waste bags that we will pack in. We will additionally utilize consumed MRE bags as food waste storage as they are airtight and convenient. For our human waste, we will use WAG bags all the time unless we are well below alpine zone for any reason. Our waste water will not be disposed of within 200ft of water sources.

**Leave What You Find:** We do not plan on taking anything home from the trip.

**Minimize Campfire Impacts:** Campfires are prohibited in the park. We do not plan on having any campfires on this trip.

**Respect Wildlife:** We will not interact with any wildlife and will keep our distance if we do happen to see any. The Applebee campground holds stationary bear vaults that we will store our food in in order to keep our food away from wildlife.

**Be Considerate of Other Visitors:** We plan on being friendly, but courteous with other Bugaboos visitors. We will plan on keeping our distance to ensure we do not negatively impact the experience of other visitors. The Purcell Mountain Range is traditionally part of the territory of the Ktunaxa indigenous nation and we must respect the fact that we are traveling on their land. We must also be aware of the fact that the Bugaboos is an international destination for climbers from all over the world. When interacting with climbers of different backgrounds at the campground, we must respect cultural differences.

In addition to the LNT guidelines outlined in the above section, we recognize it is crucial for us to be no trace climbers. This requires leaving no trash on the wall, avoiding damaging the rock with gear and or our bodies, and collecting all

protection used, with the exception of an emergency situation. The site also encourages avoidance of alpine meadows to aid in a restoration process. Streams and lakes can be used as fresh water sources, so it is important to avoid using any form of soap and disposing of grey water at least 30 meters from water sources. Like mentioned above, human waste should be disposed of in either WAG bags, in non-alpine soil regions buried at least 6 inches deep, or in designated restrooms.

We have calculated the carbon emission offsetting from the calculator on Colorado College's website and included it in our budget. Our trip will produce 1.83 metric tons of CO<sub>2</sub>e which amounts to \$9.13 of offsetting.

## Risk Management

### What are the main objective hazards of the expedition?

Avalanche:

Avalanches are unlikely to occur in the Bugaboos during late July and early August. Wet loose avalanches would be the main hazard to account for while navigating up, down or beneath steep snow slopes. We will always plan to be exposed to steep snow slopes only in the early morning while the snow is still firm.

Climber Fall/Climber Injury:

Given the remote and committing nature of routes in the Bugaboos, we believe that we should take a conservative approach to lead falls. If one of us were to get hurt in a fall, retreat or rescue may be complicated. We also recognize that unexpected falls are possible and will take steps to mitigate the risks involved.

We are planning to attempt routes that we believe are within our abilities. Some of the routes may have cruxes that could be difficult for us. For these routes, we will only attempt or commit to hard sequences if they are well protected and the falls are short, clean and safe. We will also attempt these routes with a clear and detailed plan for bailing or aiding through hard sections.

Everyone on the trip has a lot of experience leading traditionally protected rock climbs. We are also committed to using a risk-averse approach to placing protection. We will research the route on our itinerary so that we are properly equipped and have sufficient gear to safely climb them.

We always build EARNEST/SERENE anchors and will bring a rappel device along with a third hand per person and a GriGri for lead belaying.

Fatigue, both physical and mental, can increase the risk of falls or mistakes. To avoid this, we plan to bring sufficient calories and water so that we are adequately fueled throughout the routes we attempt. If any member of the party is feeling burnt out, we will carefully bail from the route.

If a climber is injured on-route, all members of the expedition have experience with self-rescue systems. This includes the ability to retreat with a incapacitated climber. All members of the expedition will be WFR certified.

Glacier Travel:

Many of the routes on our itinerary are accessed by traveling over glaciers. Glacier travel presents several hazards that we should be aware of prior to the trip. Graham, Will and Erik have experience with glacier travel. Graham has recent experience from his RKMFE Expedition last summer with navigating the Bugaboos' glaciers, and has been trained in glacier travel and crevasse rescue by the Pikes Peak Alpine School. We believe that it is important for all members of the expedition to have the ability to assess and deal with the risks associated with glaciers. Story, Luke, Jake and Will will be taking a Crevasse Rescue and Glacier Travel course in the spring.

Night:

Being benighted on-route is a possibility while climbing long routes. While we do not expect to be on-route after dark, we will prepare for it nonetheless by always bringing headlamps and spare batteries. All of us have experience climbing, navigating, bailing, or descending from complex terrain in the dark and we are confident in our ability to do so. All Along the Watchtower is the one route where we would plan to bivy on a good ledge part way up the route. We

plan to break up the two climbing days so we are climbing almost completely in the daylight, minimizing the hazard of climbing in the dark. We will decide to go for this big objective based on how well we are moving on other routes earlier on the expedition.

#### Weather:

We understand that the weather in the Bugaboos is unpredictable. Storms can roll in very quickly and bring cold air, wind, rain, snow and lightning. We will always climb with extra layers for warmth and water protection. We will intentionally keep an eye on weather patterns to help inform our decisions about if and when to climb. Also, the Kain Hut posts weather updates daily that we can check if need be.

If a bad storm comes in while we are on route, we will bail from the route in a safe and efficient way. We are all experienced with route finding in stormy or low visibility conditions. We also are all familiar with the lightning position.

The weather in the Bugaboos is obviously influenced by the effects of climate change. Even though our trip will be in late July and early August, which typically brings warm temperatures and less precipitation there, we still will be prepared for unusually hot and cold temperatures and large amounts of precipitation. If the temperatures are too hot or too cold, the opportunity to climb may be compromised. If it is too warm, glacier travel could become more dangerous. Steep snow or ice slopes could become very dangerous to pass through or beneath as well. Very cold temperatures could compromise climbing due to the fact that the risk of being exposed to the cold for a very long time would be too high. We will come prepared and stay updated throughout the trip with weather reports so that we have a good idea of what the weather will likely be like. We will also all be prepared for extreme hot, cold, rain, wind and snow conditions throughout the entire trip.

#### Altitude:

Throughout the trip we will be sleeping at an elevation of about 8,000ft. The majority of the spires we hope to climb are no higher than 10,500ft, with the Howser Spire being above 11,200ft. We all have experience sleeping and exercising at these elevations. We also all have training to recognize AMS, HACE and HAPE. In the event of a group member showing symptoms of any of these conditions, we will descend immediately.

#### Wildlife:

The Bugaboo Provincial Park is home to some potentially hazardous wildlife. Upon arrival at the park we will surround our vehicle with a chicken-wire ring to prevent porcupines from chewing on our car tires. We will each have a canister of bear spray to manage potential encounters with Black or Grizzly bears. We will also keep all of our food in bear canisters and keep a clean campsite. Our kitchen area will be at least 100 ft from where we sleep.

#### Rockfall and icefall:

Rockfall and icefall is a hazard that we will always need to manage on approaches, climbs and descents. We will avoid traveling through sections of loose rock and debris as much as possible, and will navigate these sections with extra care when we do need to get through them. We will always be wearing helmets when in terrain that has the possibility of rockfall for unknown or hazards like climber's above us or an unforeseen rockfall incident. If a rock were to fall we will call out "rock" to notify our partner and stay hidden against the wall under our helmets.

We will always make an informed decision about whether or not to travel through an area and when to do so. When in areas with any potential for rockfall or on glaciers, we will always wear climbing helmets and space ourselves appropriately according to the terrain. This may mean staying in a compact group and micro-managing terrain to stay out of the fall line of the person above, waiting in a safe position for one group member to completely pass through a loose section before the next group member begins the section or roping up on glaciers and being ready to self arrest. We will navigate sections with loose rock or debris that is bound by snow or ice in the early morning when the temperatures are the coldest so that the chance of debris coming loose from thawing snow or ice is minimized. Additionally, we will place belays out of the natural fall line for rocks or debris falling down from us, other climbers or naturally. Our route selections will mitigate navigation through areas of loose rock and debris as much as possible. In the event of rock, ice or other debris falling, we will communicate loudly and clearly to our group members or other climbing parties below.

Before starting a climb, approach or descent, we will always identify if there are other climbers in the area who could potentially cause an increased risk of rock or icefall for us. We will assess these situations with safety as the biggest priority.

-IMPORTANT UPDATE-

On December 23, 2022 there was a massive rockfall event that happened on the north end of Snowpatch Spire. BC Parks has implemented a Rockfall Hazard Perimeter Zone in the incident area due to ongoing instabilities. There is a zone that the Park has indicated as a Travel Not Permitted area, and a less severe zone where travel is not recommended for the time being, which includes the Bugaboo-Snowpatch Col.

This is significant for our trip because the BS-Col is a main highway for accessing routes and descending off of many. We will closely follow and continue to monitor the BC Parks recommendations for travel in this area. The Park has stated that this closure lasts until July 15th, and then the advisory zone over the BS-Col is likely to be changed or lifted.

If the travel advisory remains when our expedition begins, then we will use an alternate descent that utilizes the Snowpatch Icefall rappels to return to camp after climbing routes like the Snowpatch Route and NE Ridge of Bugaboo Spire.

Regarding our plans to travel to East Creek, that will require us to travel through the Bugaboo-Snowpatch Col one time, and one time only, which is on the way there since we can utilize the Snowpatch Icefall rappels on the way back. If the travel advisory remains by the time of our expedition, then we may re-evaluate the choice to travel to East Creek. If the advisory has been removed, then we will talk with other climbers at Applebee to assess the conditions of the Col this season, and make our choice then.

### **Describe your self-evacuation plan in the event of an emergency.**

Emergency/Evacuation Plan:

Based on our Wilderness First Responder training, we will assess if the accident, injury, or reason for emergency will require outside assistance. If the incident is serious enough to require an evacuation but non life-threatening like a broken bone or non-critical laceration, we will hike out of the backcountry via the trails. Self evacuation situations like this can change constantly, so it is important that we continually assess the condition of the injury and reevaluate evacuation plans. In a self evacuation, the Conrad Kain hut may also offer us emergency supplies for stabilizing an injury and additional help. The Kain hut also acts as a shelter for emergency situations. In the event where we are able to get the injured body to the hut, but not down to the car, we can provide better care to the person in the hut, limiting exposure to the elements. If we continue down to the car, we will immediately drive to Brisco, the nearest town. Once we get cell phone service, we will decide if dispatching an ambulance to our location, or driving to the nearest hospital is more suitable for our situation. The nearest hospital resides in Wilmer, roughly 40 miles south of the trailhead. Due to the size, Invermere & District Hospital may provide the assistance we need, if not we will follow the guidance of their staff. We will work as a team exercising what we need to do to keep everyone safe as well as help whoever is injured.

In a scenario where moving the injured person is not an option, and making it to the Kain Hut is not reasonable, we will activate the SOS feature on our Garmin InReach Mini to dispatch a rescue effort. Depending on our current distance to the Kain hut, it may make sense to stabilize the injured body, and then head to the hut to find additional people to aid in the rescue effort. In the event that a helicopter rescue is not an option due to weather, we will then be forced to perform our own evacuation or at least a push to the Kain hut. If we are able to rally help from other visitors, we will build an improvised litter using our climbing packs to transport the injured. If moving is not at all an option, or we are in an area where it is not logistically possible, we will begin efforts to stabilize the injured and prepare to wait. This process will include performing any possible first aid, gathering warm layers for the injured, constructing a shelter using rocks, climbing equipment, snow/ice etc. This process is also subject to the condition of the injured. If the injury is requiring full attention and monitoring, the healthy partner will do so unless absolutely necessary to leave for another task.

If we encounter an emergency situation while climbing on a route, we will use our multi-pitch self and partner rescue that we have practiced together before the trip. After assessing the situation we will do what means are necessary to get both partners to the ground safely. We will carry a small med kit with us in our ascent packs in order to be able to perform First Aid if need be. Solutions will vary but after reaching the injured and managing anything medically necessary we will repel the route. Climbing teams will also carry bail chord and be sure to have the sufficient ropes to rappel any routes attempted. If one partner is unconscious, the healthy partner will perform a tandem rappel with

them. Additionally, at the onset of the emergency we will assess the seriousness and potentially activate SOS mode on our Garmin InReach. Once on the ground, we will begin emergency procedures outlined above.

### **Discuss any measures taken for teammates with medical histories which warrant special preparedness.**

No other group members have any concerning medical histories.

### **List the emergency and rescue resources available in the vicinity of your expedition.**

Emergency Resources/Communication:

Closest facility: The Conrad Kain Hut — 0.5 miles away from the Applebee Campground. We will contact the Kain Hut for assistance in the case of an emergency and if an evacuation needs to be initiated.

Closest amenities: Brisco, BC — 28.5 miles away on a dirt road.

Closest hospital: Invermere & District Hospital, Invermere, BC — 56 miles away.

850 10 Ave, Invermere, BC V0A 1K0, Canada

+1 250-342-9201

For emergencies we will call 9-1-1

Alpine Club of Canada: (403)678-3200, manages the Conrad Kain Hut

Closest SAR: Columbia Valley Search and Rescue

1627 Hwy 93/95, Windermere, BC V0B 2L2

250-342-0600

For emergencies we will call 9-1-1

In the event of an emergency in which we need immediate assistance, we will utilize one of the Garmin InReach devices to communicate with first responders. The SOS feature will dispatch a response team and provide our location. For more minor evacuations that do not require the SOS feature, we can alert our friends and family, using the two-way messaging feature, that we are performing a self-evacuation. This feature also allows us to send detailed information about our situation and location to responders.

### **List the emergency communication devices you will be carrying on your expedition. If none, explain why.**

We will carry 3 Garmin In-Reach devices, and there will be one with each climbing group whenever on a route.

## **COVID-19 Preparedness**

### **What is the current COVID-19 situation in the area where you are intending to travel?**

In April of 2022, British Columbia lifted all Covid-19 restrictions, so to enter Canada there is currently no requirement to show proof of vaccination or testing. There is also no requirement to wear masks but it is recommended, which we will do when in indoor spaces or populated areas. Since August of 2022, there has been an average of 70-100 Covid cases per week in British Columbia. Given that BC has a population of about 5 million, the Covid infection rate is very low.

### **How do you intend to mitigate the risks of exposing yourself and your teammates to COVID-19 while traveling to your trailhead?**

To ensure that all the members of our group begin the trip Covid-19 free, we will follow local and Colorado College guidance. This includes guidelines on quarantine and risk mitigation. As we travel to the trailhead, we will be very careful to avoid infection by wearing masks, minimize time spent in gas stations and washing hands often.

Additionally, all of our group members are vaccinated for Covid-19 and plan to keep updated with booster shots.

### **How do you intend to mitigate the risks of exposing the residents of the area(s) where you will be traveling to COVID-19?**

While traveling to the trailhead, we will wear masks and social distance whenever we are in indoor spaces or heavily populated areas. Radium Hot Springs is the most densely populated area we will travel through, and we will make sure



to take extra precaution there.

### **How do you intend to mitigate the risks of COVID-19 while in the field?**

The backcountry nature of our trip will limit exposure to getting infected greatly, but we likely will still interact with other users of the park and park rangers. During these interactions we will socially distance and wear masks. The six of us in the group will act as a family unit in the field. We may bring Covid-19 testing kits into the field.

### **If someone on your expedition develops COVID-19 symptoms, how will you handle it?**

If one of the group members develops Covid-19 symptoms, will we start an evacuation. We will also immediately start social distancing within our group and wearing masks. Our evacuation plan would involve staying as socially distanced as possible given the circumstances.

## **Budget**

### **Upload a detailed and complete expedition budget.**

[2023 RKMFBudget DONE.pdf](#) (15KB)

Uploaded 1/31/2023 10:30pm by Graham Webb

### **What is the total funding request for your trip?**

\$3900.28

### **What is the funding request per person?**

\$650.05

### **Describe what measures you have taken to minimize expenses for your expedition.**

In order to minimize the cost for our expedition, we will be driving two of our personal vehicles to the Bugaboos instead of flying. Avoiding flying will also reduce our carbon emissions and our cost for carbon emission offsetting. Because we are a group of 6, the cost of our trip is already lower because transportation costs are distributed between a larger group

For our travel, we plan on camping for free which will reduce lodging costs.

We will purchase most of our food in larger quantities from Amazon to keep costs low. Our large group size allows us to buy more food for less, which again saves money. We are choosing to buy many MREs from REI and Amazon through our memberships. These meals are slightly more expensive than raw ingredients, though their speed, low weight, nutrition, and variety are worth the increase in price. We think that these MREs are a good choice for this type of expedition, besides their high cost. We think that our saved costs in transportation make up for the heightened costs of MREs.

## **Expedition Agreement**

**The Expedition Agreement must be printed, read, and signed in ink by each member of the expedition team. Once the Agreement is filled out, it should be scanned into PDF format and uploaded here. The group application will not be considered complete until this form is submitted**



Uploaded 1/31/2023 11:46pm by Graham Webb

# Appendix A - Expedition Itinerary

## TRAVEL PLAN:

Our plan is to drive 2 cars with 3 of us each from [REDACTED] to the Bugaboos. We will stop in Bozeman, MT after the first day of driving and camp on BLM land, The next day we will drive from there to the free Bugaboo Septet campground, where we will spend the night. The next morning we will hike up to Applebee campground and begin the expedition. We will reverse this process at the end of the trip.

## NOTE ON REST DAYS AND WEATHER:

Due to the fickle nature of the weather present in the bugaboos, we have tried to plan enough time and rest days to climb six routes. We feel as though two weeks is a good amount of time to try and achieve the objectives listed below due to the aforementioned weather. We planned plenty of rest days in order to have the opportunity to shift some days around if conditions begin to change in the area.

Rest days also help to play into the timing of certain climbs and how it would cause the trip to progress. The specific example we have of this is *All along the watchtower, 5.11 C1 V* where a bivy en route is required to safely and effectively ascend North Howser Tower. We will describe the specifics of this route and how it fits in to our itinerary in further detail later.

## Credits:

Much of the information gathered here is from numerous users across Mountainproject. If it were not for them, we would not have nearly enough information to successfully attempt the routes we have outlined.

Another huge thanks goes to Steph Abegg for the wonderful topos outlining many of the routes. Her route descriptions, beta, and topos are by far one of the most comprehensive, useful resources out there for someone looking to climb anywhere in North America, and the bugaboos provide no exception to this rule.

## Team A:

July 25	Day #1	[REDACTED] -> Bozeman, MT
July 26	Day #2	Bozeman, MT -> Bugaboo Septet Campground
July 27	Day #3	Hike up to Applebee campground and settle in

July 28	Day #4	Jake and Luke: McTech Arete Will and Erik: Paddle Flake Direct Graham and Story: McTech Arete
July 29	Day #5	Rest Day
July 30	Day #6	Team ABC: NE Ridge of Bugaboo Spire
July 31	Day #7	Rest Day
August 1	Day #8	Resupply Day - All teams will hike down and bring up the rest of our food from the cars, making the loads light.
August 2	Day #9	Rest Day - Teams ABC travel to East Creek
August 3	Day #10	Team ABC: Beckey Choinard
August 4	Day #11	Rest Day
August 5	Day #12	Erik and Will: Solitary Confinement Story and Luke: Solitary Confinement Jake and Graham: All along the Watchtower day #1
August 6	Day #13	Will, Erik, Story, Luke, Rest day Jake and Graham: All Along the Watchtower day #2
August 7	Day #14	Teams ABC travel back to Applebee
August 8	Day #15	Luke and Graham: Divine Intervention Jake and Erik: Snowpatch Route Story and Will: Snowpatch Route
August 9	Day #16	Pack out, camp at Bugaboo Septet
August 10	Day #17	Bugaboo Septet -> Bozeman
August 11	Day #19	Bozeman -> 

**A general note on bailing off routes:**

For a few of the routes on our itinerary, and for many alpine routes in general, bailing is very complicated and risky. Bailing is something we will only resort to when continuing climbing presents a significant danger to us - meaning one of us is hurt, the weather has become dangerous, etc.

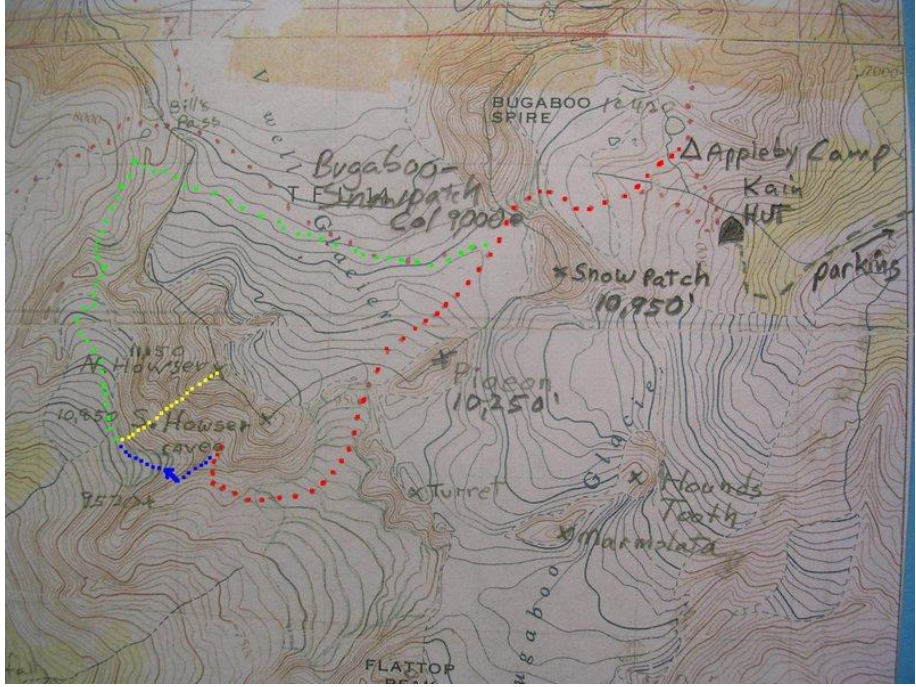
We have a specific plan for bailing off of each route, which is described underneath each route description in this appendix. For some routes, detailed information on bailing does not exist, as is the nature of alpine climbing. In those cases we will resort to our best judgment and decision

making skills to decide the best way to make it safely to the ground. Both of us are confident that we have the skills and knowledge to safely bail off of any climb in our itinerary in those emergency situations.

### **All Along The Watchtower, 5.11 C1 V, 3000ft - Jake and Graham**

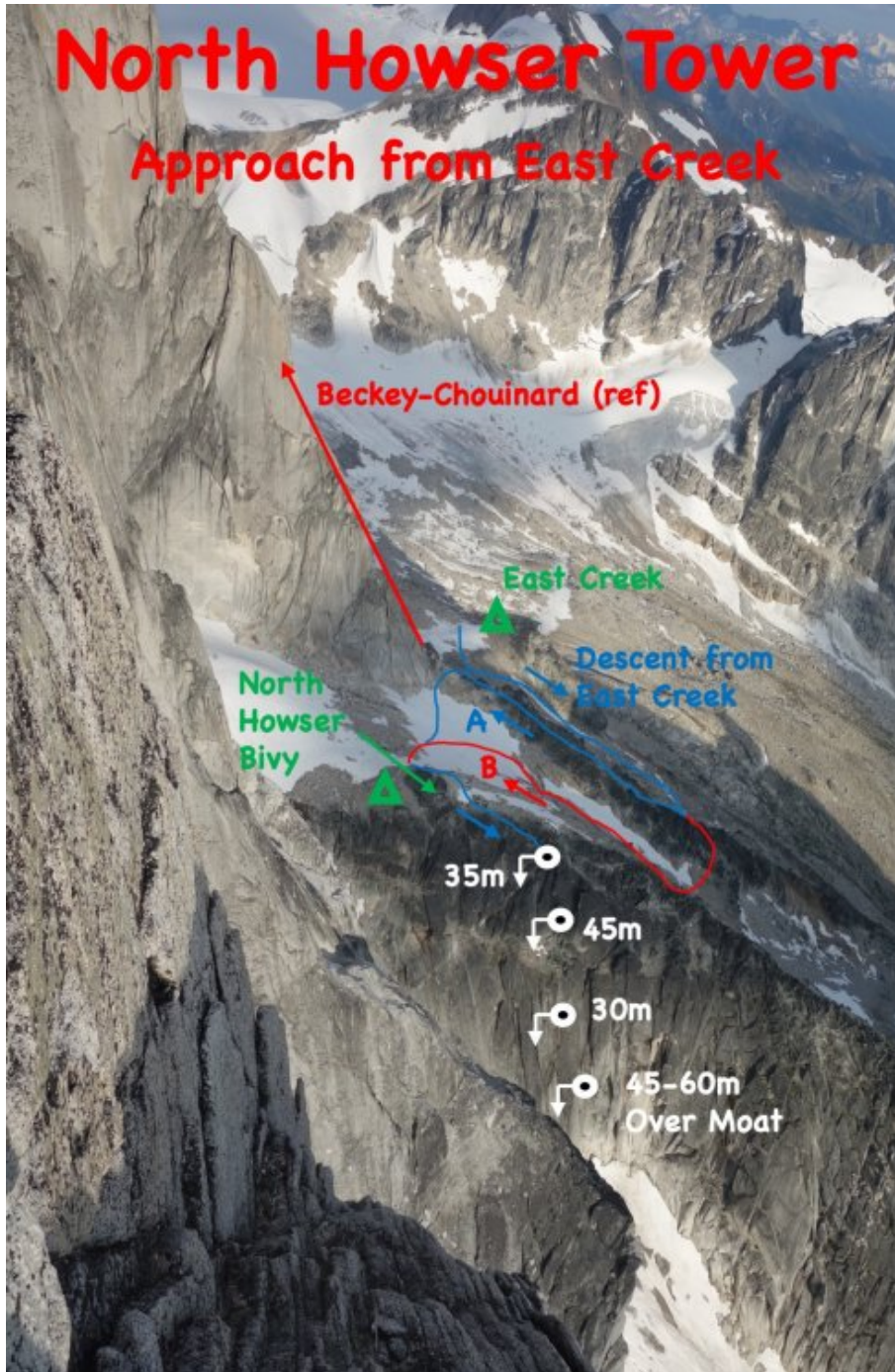
**Plan:** This is a very large objective, Jake and Graham feel that they have climbing experience to back it up. We will choose to go for this objective, or not, based on how we are moving on other routes before this and if we feel confident and efficient. If we do the route, the plan is to bivvy at the East Creek campsite the night before attempting the route. We plan to attempt the route over 2 days. The route has several options for bivies. The two spots we are likely to use are the bivy sites at the top of pitch 7 or at the base of the 5.11 corner system (pitch 11). We will plan on using the pitch 7 bivy, but may continue to the higher bivy if we decide that there is enough time left in the day. There is also a bivy on the summit should we reach in the dark and decide to spend an additional night. We are planning to climb each pitch free, but will not spend time working and retrying them should we fall. We will start the approach from East Creek campsite at 3:00 am to provide sufficient daylight to reach our planned bivy. If we reach the pitch 7 bivy before 3:00 pm, we may make the decision to continue to the pitch 11 bivy. We plan to summit on our second day on the route, complete the descent, and return to our campsite at East Creek. We will each have a small backpack with water, food, bivy equipment, ice axes, crampons and layers. We will be able to haul the packs with a tagline for the harder pitches. We will bring a 70m rope and a 65m tagline, a double rack from .3-3 with triples from .3-.75, and singles in .1, .2, 4. We will also bring offset nuts and RPs.

**Approach:** From East Creek we will descend until we can scramble up to the ridge. We will stay on the ridge, walking to the base of the Beckey-Chouinard. We will scramble down to the snow and traverse, staying high, to reach a big, obvious boulder at the next ridgeline (North Howser Bivy Rock). We will then find the first rappel station, which is obvious and heavily marked with cairns. 4 rappels straight down will take us over the moat. We will walk along the snow after the rappels to the base of the route.



# North Howser Tower

## Approach from East Creek





**Route:**

P1: Start from ledges where the lower wall sticks furthest into the glacier. Climb low-angle 5.8 for 55 meters up the left-most right-facing corner..

P2: Climb a short roof left to a grassy and loose crack system, staying left of all major roofs. Once above the roof systems, and once at a minor roof, traverse the slab using a hidden fist crack to reach a left facing corner. 5.9+, 60 m.

P3: Step right around the corner and climb up a shallow corner. Once above the "crazy arch feature" move right to some terraces.

P4: Climb up a chimney to a 5.10 offwidth (#3-4 cams).

P5: Go straight up from the belay for 10 ft then step right into another corner. Traverse right on bouldery 5.10 and belay at the base of the striking corner. 20m

P6: Climb the right facing corner, 5.9 optional #5.60m

P7: Climb 5.7 face up to a good bivy ledge. 80m

P8: Climb a loose 5.8 feature trending left.

P9: Climb a 5.10 dike trending left.

P10: Climb right below some flakes towards a left facing corner, then climb up the corner to a 5.10 hand crack. 60m

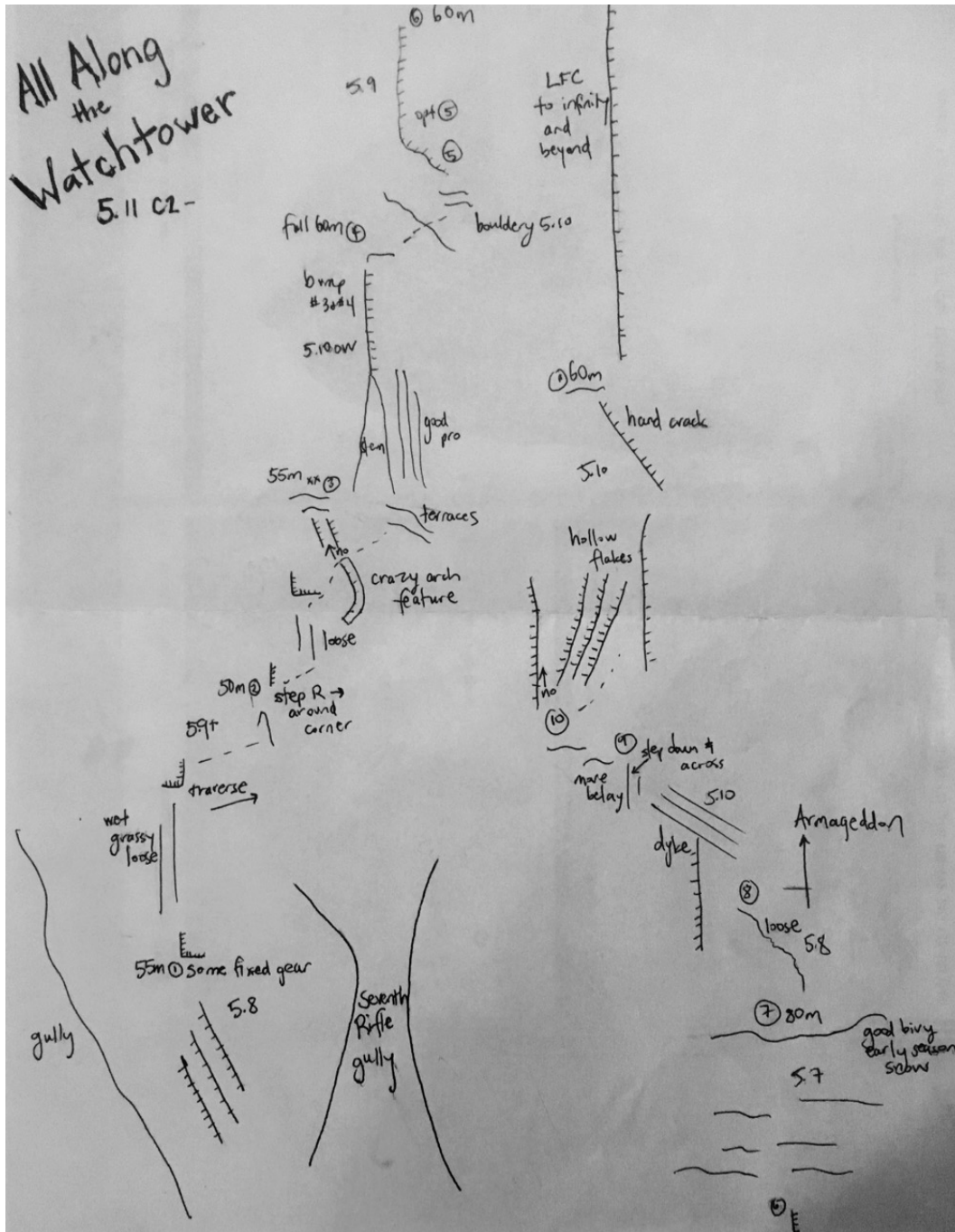
P11: Climb the chimney on the left for 10ft then move up and right on hollow flakes. 5.10, 60m

P12-15: Climb up the amazing northwest facing corner. 5.10-5.11

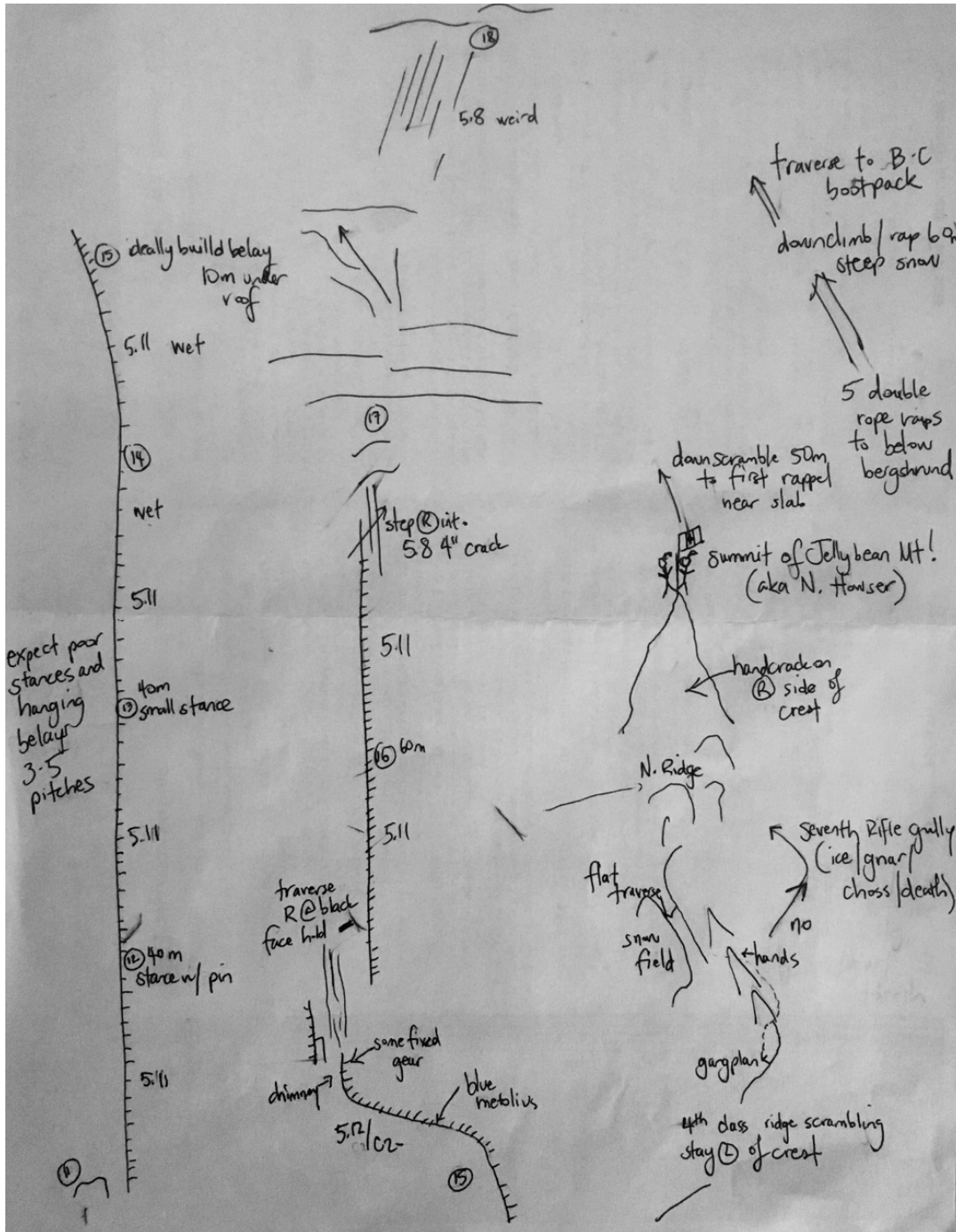
P16: Traverse left as the corner arches. 5.12 or C2-. Climb up through a chimney with some fixed gear, then traverse right back into a 5.11 corner. This pitch can be aided should we fail to free climb it.

P17: continue up the corner, then step right into a 5.8 #4s crack.

P18-top: Move along the ridge to the summit, staying left of the crest. Mostly 4th class with occasional 5.8 steps.







### Bail plan:

The location of the route, and its approach involving several rappels, means that any bail attempt would be very complex. The route also has no fixed anchors, and slightly traverses. If we had to bail, we would have to build our own rappel anchors and leave gear. To prepare for this unlikely possibility, we will carry extra cord and webbing with us. We will also only attempt the route if we are feeling up for it, based on how previous routes feel. To prevent the need for

bailing due to injury, we will climb conservatively and safely, as detailed in the climber fall/injury section of our application.

**Descent:**

From the summit, scramble down 50 meters towards the east face. 5 double rope rappels from deluxe bolted anchors will take us below the bergschrund. From there meet up with the trail in the snow leading from the Beckey-Chouinard, and head back to the Pigeon Howser Col which takes us back to camp in East Creek.

**South Howser Tower, Beckey Chouinard, 5.10, IV 2000ft  
(Credit info to Mountain Project and Steph Abegg)**

**Plan:** For this lengthy and involved route, our entire group will be getting up early in order to beat the potential crowds. Each climber will carry their own pack on route, which will contain food and water as well as bail tat and gear, extra stoppers, emergency layers and first-aid supplies, as well as crampons and an ice axe for getting down on the other side and back to camp.

**Approach:**

In order to attempt this route and potentially others on the Howser Towers, we will be camped in the East Creek Basin Bivy. The large buttress of the Beckey-Chouinard is visible from the camp location, and the approach scrambles north from the bivy, following some cairns and keeping the ridge in view, hiking up steep snow along the west side of it. The route then scrambles up onto the ridge with a large split boulder in view resting at the base of where the prominent buttress and route begin. The route begins on a slab behind this boulder. One important thing to note is that Graham has done this route before, and knows locations of crucial beta and rappels. In addition to this, we have all thoroughly studied the information. We plan to wake up at 1:30 am because this route is very popular, and be on the roped climbing by 4:30am. This is what Graham and Andrew did, and it allowed them to be the first on the route. Also importantly, it will mean we can ideally descend over the bergschrund on the other side of the Howsers during the day time.

**Route:**

P1: From the split boulders, climb a slab out right, following cracks and flakes upward to a block on the ridge. Build belay. (5.5)

P2: Follow the crest of the ridge at 5.5.

P3: Ridge crest gets steeper, take crack systems left to a ledge with a block to belay on. (5.7)

P4: Over to the right of the crest, steep cracks go through a bulge with fixed gear. Easy 5.10 moves surmount the bulge, then follow cracks through a horn feature to a ledge. (50m)

P5: Climbs crack systems on the left side of the arete, climbing around to the right side and continuing to follow the cracks into easy terrain. Find a flake with a chimney to the left, to a belay on slabby terrain. Can also belay on the crest. (5.8, 60m)

P6: Cross rightward over the arete on a handrail and cracks, finding a big left-facing corner. If belaying on the crest, climb upward. Then climb the big left facing corner to an alcove

behind a block that sticks out. (5.8, 60m)

P7: Continue up the corner to a crack and make a belay on ledges with loose rock (be mindful). (5.8, 60m)

P8: Scramble up the scree ledges, belay at bivy site above. Be very mindful of rocks and rope drag.

P9: Climb a chimney from the ledge, and follow blocks and cracks to where the wall gets steeper again. Belay at block. (5.6)

P10: Climb a short crack on the left to a ledge, then go right past a flake to two corners that are opposed. Climb the right corner to more bivy ledges below the white headwall.

P11: Walk far left on the bivy ledges and climb a wide crack in a right facing corner at the far left side of the headwall. Climb to the top of a mini tower and go up a corner system. Break out and left of the corner to a short steep section then a small ledge. (5.10-, 55m) There are several other crack options on this pitch but we plan to stick to this one.

P12: Step up and balance out right back into the corner. Follow this corner up past blocks and a tight squeeze. Belay at the start of a gully. (5.9, 60m)

P13: Climb the gully, surmounting boulders. It turns into a corner with a cap at the top - climb the second crack on the left wall of the corner to belay below a long, shallow, right-facing corner. (5.9, 60m).

P14: Follow this corner, two-pin belay in a notch (can back up with gear). (5.8, 30m)

P15: Tension left at A0 into a gully, but we will probably free climb at 10+, and follow the gully up to a belay after 5.6 terrain.

P16-P20: From the top of the gully, find rappel slings on the right and down. Rappel 20m to ledges on the south. Climb up and right around two vague buttresses to rain the ridge right of the summit. 200m of broken fourth-class, with easy fifth-class steps.



### Bailing:

The alpine nature of this route, and the absence of fixed anchors means that any retreat would be complicated and require the use of our own gear for anchors. We will prepare for the possibility of a complicated descent by carrying extra webbing and cord in our packs to supplement our bail anchors.

### Descent:

From the summit, find the rap anchors to the east of the summit and make 6 double rope rappels to the glacier. Make sure the ropes reach below the bergschrund before committing to it.

## **Bugaboo Spire, NE ridge, 5.8 1500ft IV**

### **Approach:**

(1.2 miles, 1.5 hrs): We will have to wake up very early to be, ideally, the first party on the route. We will choose our departure time based on how many people are at the campground, but we will most likely need to leave camp by 4:00am. We will pack a backpack that will carry all of our supplies for the day. Because the descent off of the Bugaboo Spire spits us out far from the approach, we will plan to carry our axes, crampons and shoes in our bag. Hike on the north side of Crescent Glacier, then climb 4th class terrain to get to the Bugaboo-Crescent Col (see Image 1). Head west on the saddle towards the NE ridge of the Bugaboo Spire.

### **Route:**

P1: Rope up on a terrace, on the left of a small pinnacle. This pitch stays on the left side of the ridge crest. Trend straight up a 5.8 fingers section, then step right towards the left side of the pinnacle. Head up this crack before stepping left to a large dike where there's an anchor with fixed gear.

P2: Trend up and left following 5.6 flakes to a natural belay ledge.

P3: Climb a few feet down, step left, and then start moving up following a right-trending rail. Then traverse right for a long way, 5.7 face. Cross over the ridge crest near the end of this pitch to access another natural belay ledge.

P4-5: Head straight up a 5.6 corner to a ledge with a piece of fixed gear, staying on the right side of the ridge crest for 60m. Link this into the next very short pitch, maybe 5m, heading straight up to another large ledge with a piece of fixed gear.

P6-9: Straight above you at this point is a low 5th class chimney that continues for 180m up the right side of the ridge crest. Follow this for 3 pitches, stopping at natural ledges that appear on the right of the chimney every 60 or so meters. Pitch 9 is short, spitting you out at the top of the chimney where you make a belay on the left side of a ledge.

P10: Follow easy but wandering terrain up the ridge crest. Search for the path of least resistance, and cross over two dikes before finding a ledge to make a belay. 5.7

P11-12: Follow very easy terrain directly up the ridge crest. This takes you to the rappel station where you can begin the summit traverse, or you can continue for another easy pitch to the North Summit.

Route Images:

**APPROACH TO NE RIDGE OF BUGABOO SPIRE  
VIA BUGABOO-CRESCENT COL**

Photos and Route Overlays by  
www.StephAbegg.com, July 2016.



PHOTOS TAKEN ON APPROACH FROM APPLEBEE / KAIN HUT.

# NORTHEAST RIDGE, BUGABOO SPIRE (IV, 5.8, 1500 FT, 10+ PITCHES)

(Pitch numbers from Atkinson-Piche guidebook)

Traverse from N to S summit: To access the descent route, you must traverse to the S summit. From just before the N summit, make a short rappel off a bolted station to the left (E). Squeeze around a boulder and follow first easy ledges, then exposed ridge, and then cracks on a face to a notch against a vertical wall. Make a rappel left off a bolted station. A blocky gully leads up to the S summit. (You can bypass the S summit by continuing along the ledge and finding another bolted rap anchor which puts you at the base of the last pitch of the Kain Route.)

Descent: From the S summit, descend the Kain Route rappel anchors and scramble the lower Kain Route to Bugaboo-Snowpatch Col.

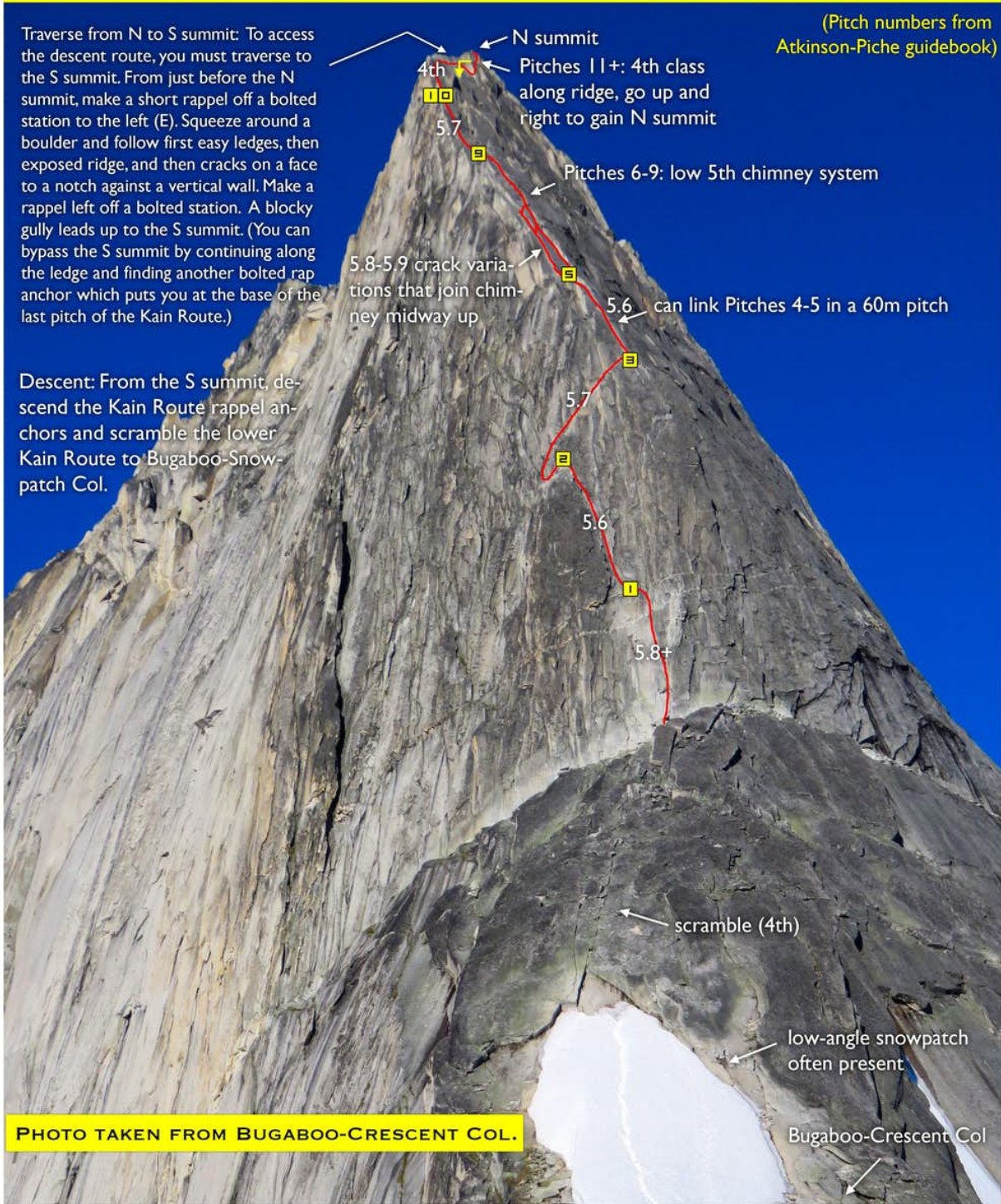
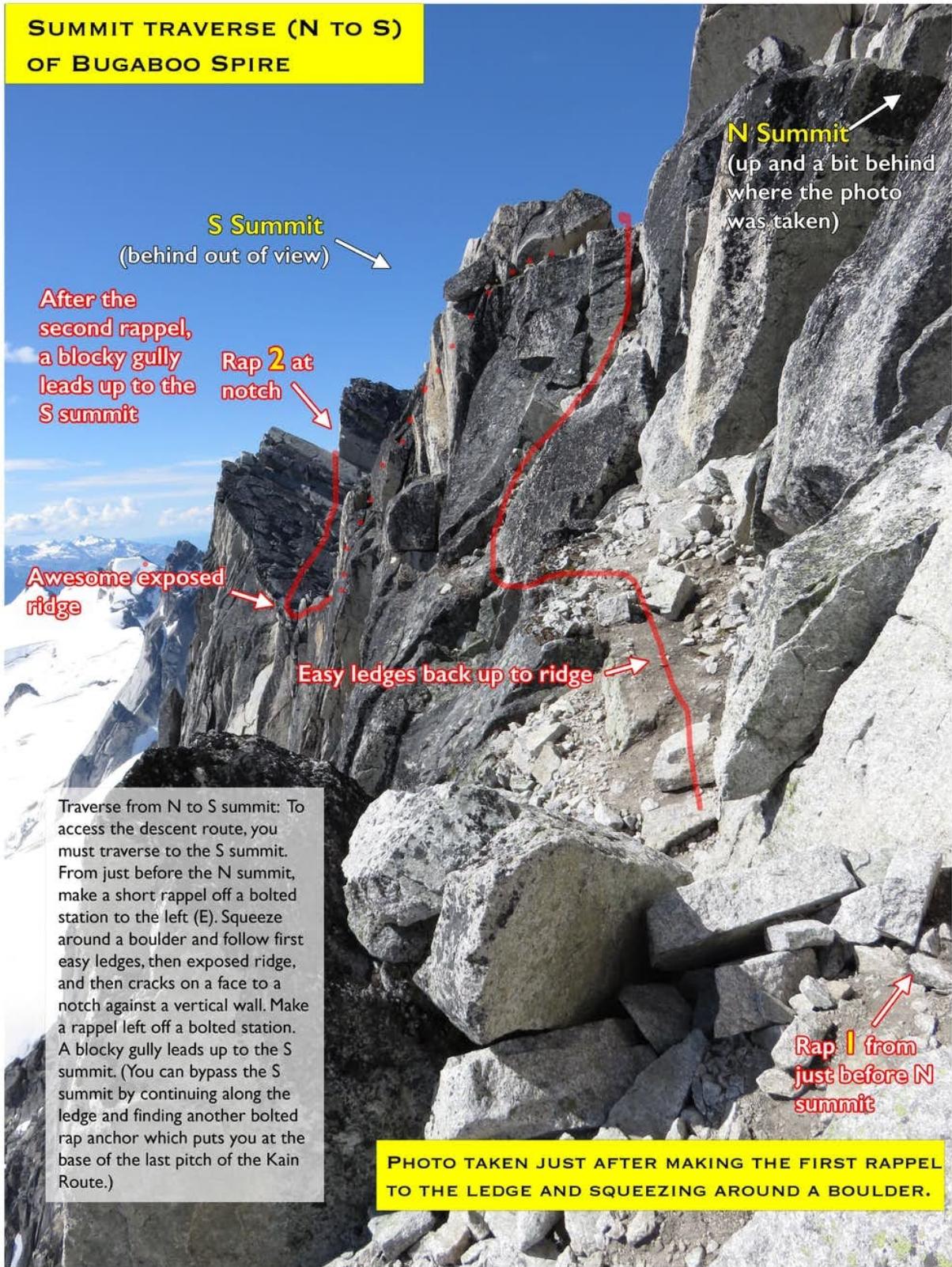


Photo and Route Overlay by [www.StephAbegg.com](http://www.StephAbegg.com), July 2016.

**SUMMIT TRAVERSE (N TO S)  
OF BUGABOO SPIRE**



After the second rappel, a blocky gully leads up to the S summit

**S Summit**  
(behind out of view)

**N Summit**  
(up and a bit behind where the photo was taken)

**Rap 2** at notch

**Awesome exposed ridge**

**Easy ledges back up to ridge**

**Rap 1** from just before N summit

Traverse from N to S summit: To access the descent route, you must traverse to the S summit. From just before the N summit, make a short rappel off a bolted station to the left (E). Squeeze around a boulder and follow first easy ledges, then exposed ridge, and then cracks on a face to a notch against a vertical wall. Make a rappel left off a bolted station. A blocky gully leads up to the S summit. (You can bypass the S summit by continuing along the ledge and finding another bolted rap anchor which puts you at the base of the last pitch of the Kain Route.)

**PHOTO TAKEN JUST AFTER MAKING THE FIRST RAPPEL TO THE LEDGE AND SQUEEZING AROUND A BOULDER.**

**DESCENT FROM BUGABOO SPIRE  
VIA KAIN ROUTE RAPPELS (5+ RAPPELS)**

(Rap numbers from  
Atkinson-Piche guidebook)

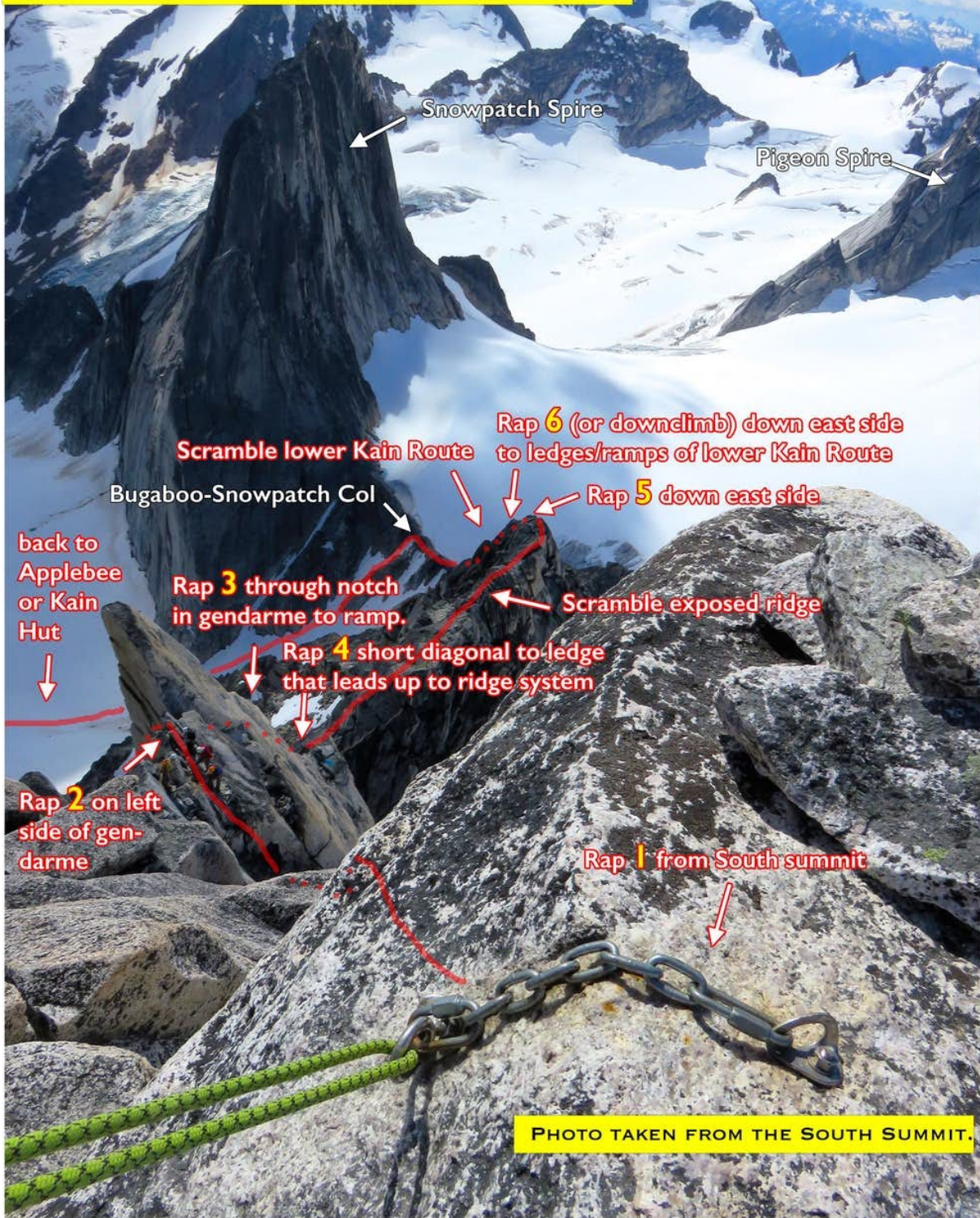


Photo and Route Overlay by [www.StephAbegg.com](http://www.StephAbegg.com), July 2016.



**Bailing:**

From the top of P3, it is possible to bail back to the start of the climb in 3 60m rappels. The anchor at the top of P3 is said to be two slung pitons, so, unless those are missing, we can use those to rappel without leaving gear. For the second rappel, it is possible to sling a horn. The anchor at the top of P1 is said to be two slung pitons also, so again we might be able to use those as the anchor for the last rappel. These 3 60m rappels can also be done in two double-rope rappels. We have the option to use our lead line and tagline together as a double-rope rappel.

Between P3 and P9 we may be able to bail by rappelling the route's pitches. We did not find info about bailing in this section. This would be a situation where the two of us use our best judgment and skills to make it back to the top of P3, and then the ground. This may involve leaving gear. This will also likely mean rappelling down over other climbing parties.

From the top of P9, we can bail by rappelling down the route 'Pretty Vacant', which trends straight down the North face of Bugaboo Spire for 9 pitches. Again, this is a situation where we will have to use our best judgment and we will leave gear. Pretty Vacant begins at an approach ledge that we can traverse climbers-right to get to the base of the Northeast Ridge, and then reverse the approach. We may also choose to continue rappelling down to the glacier from the base of Pretty Vacant.

**Descent:**

From the North Summit, find a rappel station toward the east that takes you to the summit traverse. Traverse from the North Summit to the South Summit, making one more rappel down a notch on the way (Image 3). From the South Summit, take 6 rappels down the Kain Route (Image 4). From here, we will head south on the Vowell Glacier, passing the west side of Snowpatch Spire. We will meet up with the Snowpatch-Pigeon rappels on the southwest side of Snowpatch Spire.

If BC Parks deems the Bugaboo-Snowpatch Col safe to travel through during their July 15th assessment of the Snowpatch Spire rockfall area, we will scramble down the Bugaboo-Snowpatch Col. Taking the Bugaboo-Snowpatch Col will be more direct and efficient than the Snowpatch-Pigeon rappels. At the bottom of the Col, we will hike down the south side of the Crescent glacier back to camp.

## **Crescent Spire, McTech Arete, 5.10+ III**

### **Approach:**

(.7 mi, less than an hr): We will leave camp at 5:00am. From the Applebee campground walk toward the east side of camp and look for a trail that climbs north onto the moraine. Follow the trail around the west side of the first lake you come to and around the east side of the second lake. Then straight north up the Crescent Glacier to Crescent Spire. The base of the climb is recognized by a leaning flake under a 20 foot roof. On the route, we will carry a small bag with food, water, layers, and other emergency gear. We will leave our shoes, crampons, and axes at the base of the route because we will descend back down to where we began.

### **Route:**

P1: Climb up flakes to a small corner roof, step left to another crack and continue up a short chimney to a belay on top of a pillar. (5.9) (Or just jam straight up the roof with perfect hands at 5.10)

P2: This pitch is classic. Follow a finger and hand crack out left from above the belay to an alcove. Climb up through the alcove jamming the outstanding crack up a steep face to a ledge and belay at a chain anchor. (5.10-) (the first two pitches can be combined)

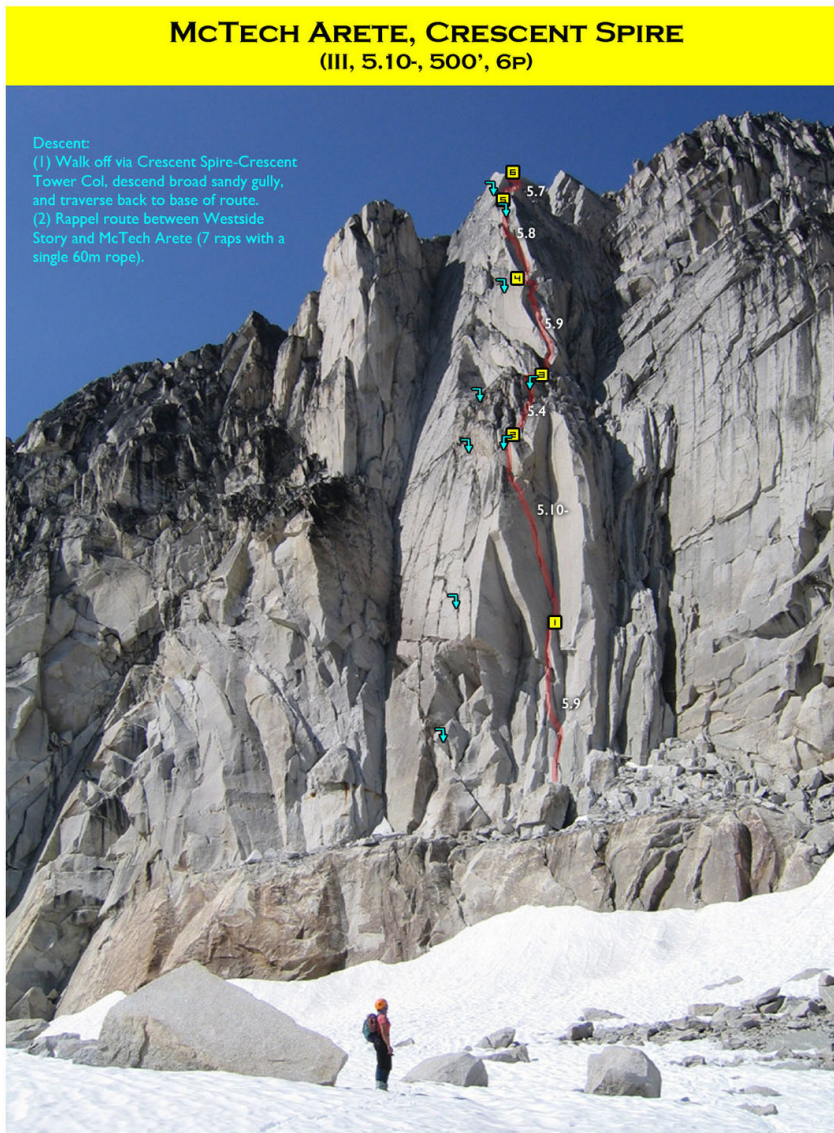
P3: Climb some corners and easy ground up and to the right to another anchor. (5.4)

P4: Step right from the anchor behind a flake and climb up a nice corner to a roof. Traverse out right under the roof to another corner and pull a second roof to a belay ledge on the left with chains. (5.9)

P5: Climb some cracks on the face to the right and gain a corner which leads to another ledge with chains. (5.8)

P6: Climb up a steep corner and then scramble left around the arete. Continue up a face to the ridge crest and belay. (5.7)

## Route Image:



### Bailing:

Rappel the route. From the rap station at the top of P2, move onto the face to climber's-left instead of following the climbing route back down the obvious corner to climber's right. Rappel to a station on the face almost straight down and slightly climber's left. From here make two more rappels to the ground.

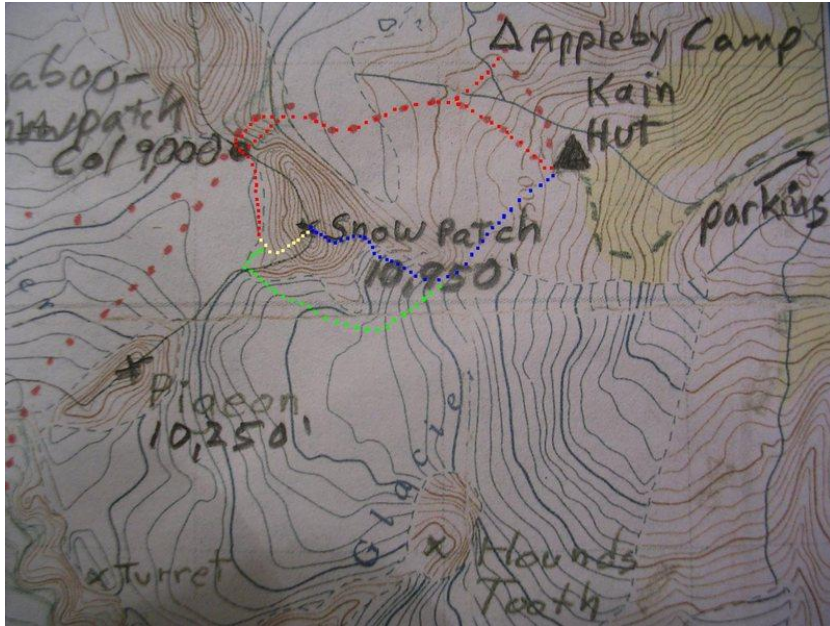
### Descent:

Descend the rappel route (Image 8) with one 70m rope. It is an easy to follow route. Walk back to camp.

## Snowpatch Spire, Snowpatch Route (SE corner/ Weissner's Route), 1500ft

### Approach:

We will approach the Snowpatch Route from the Applebee Dome Campground. We will head south and meet up with the blue dotted line in the map below. As seen in the map, we will walk south around the protruding ridge on the south east side of the snowpatch spire. We will follow snow up to the southeast col where the climb starts.



### Route:

Gear: 0.3 - 3, doubles 0.75 - 2, 4x 120cm slings

From the col, a few easy pitches lead up to the first 5.4 section in a large left facing corner.

Next, follow the 5.4 spur to a stance below the Weissner Overhang.

5.5 hand traverse to the right to avoid the overhang. This gains the easy slabs to the left of the snowpatch.

Climb several easy pitches to the left of the snowpatch.

Once above the snowpatch, move right a few hundred feet and climb the first pitch of the headwall, which is a 5.4 chimney.

Traverse left to the base of the aplite dike pitch. Climb up the dike (5.8), then move left to the offwidth. Follow the offwidth up and belay on flakes.

Climb up until reaching a leftwards traverse. Follow the traverse to a 5.6 zig-zagging crack. Follow the 5.4 ramp up to a belay stance.

One more easy pitch leads to the summit.

### Route Image:



(the route is the blue dotted line on the left side of Snowpatch Spire)

### Bailing:

Bailing from this route would be difficult due to the low angle and wandering nature of the route. We are confident that we can do this route easily and quickly, and we should not attempt it if we think we may need to bail. In the event we do need to bail, we would leave our own gear for anchors and make our way down the route in the safest way possible.

### Descent:

We will descend on the west side of Snowpatch Spire via the Kraus-McCarthy rappels. There are bolted rappel stations every 30 meters. Once off the spire, we will rope up on the glacier and head south to the Pigeon-Snowpatch rappels. There is a large cairn that marks the first anchor. From here, there are bolted rappel stations every 30 meters. From the base of the rappels we will wrap around the south side of the spire back to the Applebee Dome Campground.

If BC Parks deems the Bugaboo-Snowpatch Col safe to travel through during their July 15th assessment of the Snowpatch Spire rockfall area, we will scramble down the Bugaboo-Snowpatch Col. Taking the Bugaboo-Snowpatch Col will be more direct and efficient than the Snowpatch-Pigeon rappels. At the bottom of the Col, we will hike down the south side of the Crescent glacier back to camp.

## **Solitary Confinement, Pigeon Feathers, 5.11 III**

### **Approach:**

We will be approaching from the East Creek Basin Bivy in order to attempt Solitary Confinement. The climb is on the south west face of Prince Albert Tower, which will be a straightforward approach from the East Creek Basin Bivy. We will head west from the bivy and locate the tower, safely navigating the glacier as we go. The climb will be easy to locate as it is a singular crack splitting the center of the face.

### **Route:**

Gear: Doubles micro to 5", 3 4", 70m rope

P1 (5.11): Finger crack beginning off the ground to hand crack.

P2 (5.10-): Continue up the crack as it goes from hands to wide hands.

P3 (5.11-): Continue up the crack as it widens through fists and a wider flare at the top.

P4 (10+): Continue up the crack as it widens into an offwidth

P5 (5.10): Follow the crack through small roofs that are hand and fist sizes

P6 (5.10+): Stemming pitch to the top of the tower

**Descent:** Equipped with two bolt anchors that can be rapped with a 70m rope. It is noted that the first rappel can easily get snagged so we will be generous with our pull and thoughtful of our direction. After reaching the snow, we must simply retrace our steps back to camp (See approach).

**Route Image:**



View from the base of the route. Follow the curving crack.

**Bailing:**

Bailing from Solitary Confinement would be fairly straightforward, as there are all bolted anchors, and the 2-rope rap route goes down the same path that climbers come up. So, like many routes in the Bugaboos, we will need to bring two ropes or one rope and one tag line.

## **Bugaboo Spire, Divine Intervention, 5.11B IV, 1000ft**

**Approach:** To approach the east face of Bugaboo Spire, we would simply need to cross the Crescent glacier from Applebee campground, being weary of glacier conditions. We would head toward the Bugaboo-Snowpatch col and turn off as if heading to the Crescent Spire. The east face will be apparent and in view, and we can scope the line from a distance before approaching the base of the line underneath the long line of dihedrals in the image provided.

### **Route:**

- P1: Several options, the best one being a right-facing dihedral to a ledge to the right of the route's main dihedral (5.8R, 70m)
  - P2: Traverse left over looser rock into the left-facing dihedral, belay at dike. (5.6 30m)
  - P3: Climb the dihedral, with several fixed pins and roofs. Climb past the final roof and a fixed anchor to a hand crack on the right face to a ledge (5.11, 55m)
  - P4: Follow the hand crack until an undercling goes to a shallow LF dihedral. Follow this dihedral to a large ledge with a fixed anchor. (5.10, 45m)
  - P5: Move left and climb a shallow, LF dihedral. At the top, go right and climb hard moves past another fixed pin to another LF dihedral. Follow this to a ledge on the left with slings on a horn. (5.11b, 55m)
  - P6: Climb RF dihedral using corner and cracks out right. Climb past a ledge with a fixed anchor and up easy terrain up and right to a large ledge below dihedrals. (5.10, 50m)
  - P7: Several options, best being climbing the furthest left dihedral from wide hands to broken terrain with a ledge on top (5.9, 55m)
  - P8: Head left up a dihedral, not the hand crack, to broken terrain to a short, splitter finger crack. Climb up this and steep jugs to the convergence with the NE ridge. (5.10c, 50m)
- After this, the route consists of easy scrambling on the ridge to the summit.



### Route Image:



**Bailing:** Bailing from Divine Intervention would involve leaving gear anchors. We would have plenty of gear to bail with at any point in the route with the rack that we plan to bring. Also, there are several fixed anchors along the course of the climb that could be assessed, potentially reinforced and used for rappel anchors. The climb is mostly straight up and down, so rappelling would always put ourselves in a position on route to build another anchor.

**Descent:** Descending off of the top of Bugaboo Spire will involve scrambling down the Kain route. Steph Abegg has a lot of good info on this descent. There are 6 25m rappels down the upper Kain, and after that scrambling down the lower Kain route. Rappel beta: "Station 1: from the block just south of the summit; Station 2: down the east side of the gendarme; Station 3: down the rest of the gendarme from behind a flake; Station 4: just under Station 3; Station 5: down the east side from the ridge crest *after* a traverse south along the ridge crest; Station 6: just under Station 5" (Steph Abegg). After this we will be at the Bugaboo-Snowpatch Col. From here we can continue to the Snowpatch Icefall rappels and travel back to camp.

## Crescent Spire, Paddle Flake Direct, 5.10 III

### Approach:

Paddle Flake Direct is located on the south side of Crescent Spire. We will start from the Applebee Dome Campground and approach via the Crescent Glacier. We will locate the large ledge 40' up from the Crescent Glacier. The first pitch is around 40' left of McTech Arete and 10' left of the large left facing dihedral.

### Route:

Gear: 0.2 - 4 (x1), 0.5 - 3 (x2)

P1 (5.10): Start 10' left of the large left facing dihedral and climb finger cracks. Climb left of the first overhang and right of the second overhang. Belay at a stance just above the second overhang.

P2 (5.10): Follow cracks and face climbing then belay at the start of a steeper upper wall.

P3 (5.10): Trend up and right on the face into a chimney. Belay above the chimney at a 2 bolt anchor.

P4 (5.10): Step right to a steep corner crack to a hand crack through a roof. After the rood belay in a crack to the left.

P5 (5.10): Climb straight up finger to fist sized cracks to the top of the ridge.



### Route Image:

(Paddle Flake Direct starts just left of the left prominent dihedral in the photo and ascends up and slightly left, eventually climbing into the sun/shade vertical shadow in the photo. It is very close to McTech Arete)

**Bailing:**

Bailing from Paddle Flake Direct would involve leaving bail anchors. We would have plenty of gear to bail with at any point in the route with the rack that we plan to bring. Also, there is one bolted anchor about half way up the climb we could use. The climb is mostly straight up and down, so rappelling would always put ourselves in a position on route to build another anchor.

**Descent:**

From the top of the climb, walk east up the ridge to the top of McTech Arete and find the bolted chain anchor. There is an easy to follow plumb line of rappels to get down to where we started.



First Aid Kit			
Wound Management:	Medicine:	Tools:	
20x Assorted Bandages	30x Ibuprofen 200mg	1x Tweezers	
5x Gauze Pads 4x4	30x Acetemetphine 200mg	2x Gloves	
Antiseptic Wipes	30x Benadryl 25mg	1x Thermometer	
3x Gauze rolls	5x Antacid pills	1x SAM splint	
2x Wound closure strips	1x Antibiotic Ointement tube	2x Triangular bandage	
1x Moleskin sheet	1x Anti-itch cream	1x Irrigation syringe	
5x Steri Strips	1x Electrolyte tabs	1x small sewing kit	
1x ACE bandage	2x Burn cream	2x Safety Pins	
		1x WFR Field guide and SOAP Note	
		(w/ list of impotant local phone numbers	

<b>Number of People</b>	<b>Days In the Field</b>	<b>PPPPD</b>	<b>Total Weight</b>
6	14	2.21	185.41

<b>Category</b>	<b>Total Cost</b>	<b>cost/person</b>
Breakfast	\$297.04	\$49.51
Lunch	\$887.32	\$147.89
Dinner	\$653.02	\$108.84
Drink mixes	\$72.12	\$12.02
Fuel	\$55.70	\$9.28
<b>Total</b>	<b>\$1,965.20</b>	<b>\$327.53</b>

FOOD	AMOUNT	POUNDS/ PERSON	TOTAL (\$)
<b>Breakfast</b>	<b>Amount (lb)</b>	<b>lb/person</b>	<b>Total</b>
Powdered Milk	8	1.33	96
Instant Oatmeal	8.8	1.47	36.46
GF Oatmeal	1.5	0.25	10.58
Granola	6	1.00	36.44
GF Granola	1.5	0.25	12.18
Kodiak Cakes	7.5	1.25	33.42
GF Pancakes	2	0.33	10.98
Hash Browns	8.4	1.40	60.98
Total:	43.7	7.28	\$297.04

<b>Lunch</b>	<b>Amount (lb)</b>	<b>lb/person</b>	<b>Total</b>
GORP Mix	8	1.33	49.6
Dried Mangos	10	1.67	127.88
Peanut Butter	14	2.33	91.96
Jelly	10	1.67	58.32
Chocolate	6	1.00	79.68
Clif Bars	21.6	3.60	150.16
Summer Sausage	14	2.33	173.94
Sharp Cheddar	12	2.00	95.76
Tortillas	7.5	1.25	34.9
GF Tortillas	1.32	0.22	25.12
Total:	104.42	16.07	\$887.32

<b>Dinner</b>	<b>Amount</b>	<b>lb/person</b>	<b>Total</b>
Idahoan Potatoes	14.4	2.40	123.6
Couscous	6.6	1.10	30.32
Dehydrated Beans	8	1.33	80.72
Dehydrated Veggies	2	0.33	34.86
Total:	31	5.17	\$269.50

<b>MREs</b>	<b>Amount</b>	<b>unit/person</b>	<b>Total</b>
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MREs- Mac n Cheese	24	4	215.76
MREs- Chana Masala	24	4	167.76
Total:	48	8	\$383.52

<b>Drink Mixes</b>	<b>Amount (lb)</b>	<b>lb/person</b>	<b>Total</b>
Coffee	0.66	0.11	19.17
Electrolyte mix	1.2	0.2	52.95
Total:	1.86	0.31	\$72.12

<b>Fuel</b>	<b>Amount (lb)</b>	<b>lb/person</b>	<b>Total</b>
MSR Pocket Rocket Fuel	4	0.67	\$43.80
Jet Boil Fuel	0.43	0.07	\$11.90
Total:	4.43	0.74	\$55.70

<b>Transportation</b>	Miles Roundtrip	MPG	Gal needed	Avg PPG	
Car #1					
Subaru Forester	2,592	24	108	\$4.50	
Car #2					
Subaru Outback	2,592	20	130	\$4.50	
					<b>Total</b> \$1,071.00
<b>Food &amp; Fuel</b>	Total Cost	Cost/person	Cost/person/day		
	\$1,224.95	\$204.32	\$14.59		
					<b>Total</b> \$1,965.20
<b>Misc</b>	Item	Count	Total Cost		
	Aquamira	2	\$14.95		
					<b>Total</b> \$14.95
<b>Permits and Fees</b>	Camping	6 people	14 days	\$10.00/day	
					<b>Total</b> \$840.00
<b>Carbon Emission Offsetting</b>	1.83 metric tons of CO2e				<b>Total</b> \$9.13
<b>Total Funding Request</b>					<b>Total</b> \$3,900.28
<b>Funding Per Person</b>					<b>Total</b> \$650.05