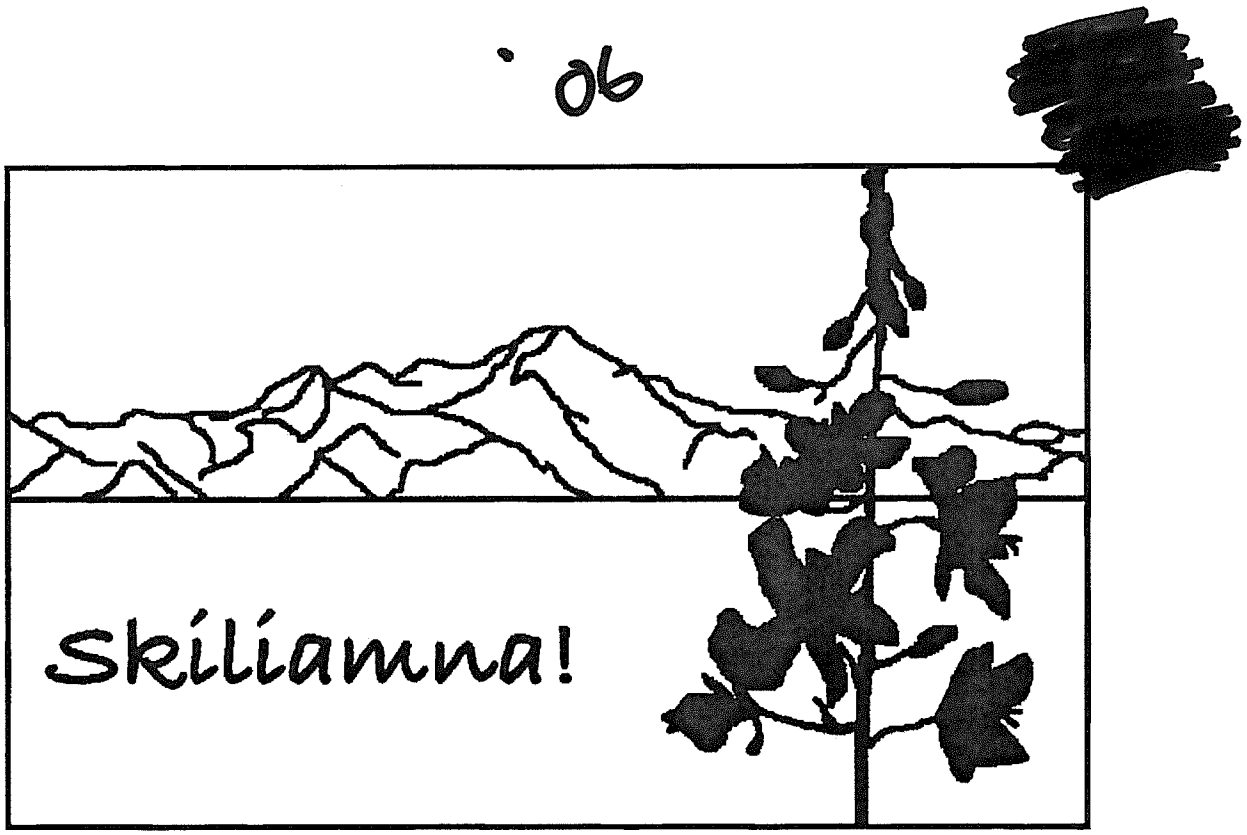
06



A Ritt Kellogg Memorial Fund Grant Proposal

By

Libby Bushell
Colin Kelly
Jake O'Brien
Molly Perlman

Table of Contents:

Our Mission Statement: Skiliamna

Imagine a place close enough that you can see every day, but far enough away that only a handful of people have ever been there. This is Iliamna. Situated less than 100 miles from Homer, Alaska, on clear days, Mount Iliamna and its neighboring volcanoes, Mount Augustine and Mount Redoubt reflect on the calm waters of Cook Inlet. The sight of the three sleeping giants evokes the awe and fear of the dangerous beauty they behold. It evokes a feeling that to Alaskans is akin to the feeling of home. It is this beautiful danger that draws the four of us to Iliamna and the Western beaches of Cook Inlet, to climb, to ski, to camp and explore, but mostly to celebrate this beautiful place that is our world.

As an Alaska Grade 2-3, the Northwestern flank on Iliamna is a relatively easy climb, taking little more than two conservative days to ascend from the lower Tuxedni Glacier. Only a handful of climbers have ever attempted Mount Iliamna (numbers vary depending on the source), although many geologists and volcanologists have reached its summit and explored its flanks, looking for clues about this particular volcano's activity level in Alaska's Ring of Fire. Iliamna is a little more difficult to ski, taking into consideration the crevasse danger and the hassles of roped skiing, as well as the initial descent of its steep summit, but this is exactly what compels us to ski it, this and the extremely low number of recorded descents. But what really draws us here is simply its isolation. Accessible only by ski plane or foot, the Tuxedni Glacier rarely sees humans, and the skiable ridges and pristine peaks of Iliamna, despite their beauty, don't attract much attention. For this reason as well as the others, Mount Iliamna is the perfect place for us.

Although all four of us are adept glacier-travelers and between us have climbed all over the world, all of us have agreed that with the kind of isolation that an attempt on Iliamna entails, a level 2-3 climb fits our desired level of risk. This measure of safety will in turn provide us with more experience on glaciated peaks, as well as allow us the time and confidence to possibly attempt alternative routes up the seldom-climbed North or East sides.

But what we really want to do while we're there is ski. Summit county is nice, but we wanted somewhere with views of the ocean, glaciers, peaks and possibly bears. We wanted to ski somewhere challenging, safe, and away from anyone else. Iliamna and the Tuxedni Glacier, with their relatively safe Alaskan spring snow conditions and unimaginable views from the Tuxedni's eastern ridgeline fit all of our qualifications.

And they exceed our expectations as well. Because not only are we almost assured of our isolation while we're there, we're pretty sure that our descents off the summit of Iliamna will be firsts. Of the extremely few full ski descents we've heard of, we do not know if there has ever been a snowboard or woman's alpine or telemark ski descent, leaving room for the possibility that we will not only be climbing and skiing, but that we'll literally be exploring new possibilities.

With our trip's combination of climbing, skiing, hiking down and off-glacier, and the possibility of first descents in a place as stunning as Lake Clark National Park and Preserve, we feel, and we hope we can convey to the Ritt Kellogg Memorial Fund board members through this grant, that this trip captures the beauty, thrill and adventure of a safe and exciting trip into the mountains.

Skiliamna Goals!

1) Our first goal is of course the safety and well-being of everyone in our group. We hope to leave the mountain, glacier and beach with not so much as a scratch to remind us of our trip. We have made adequate preparations for our safety, such as giving ourselves ample time for our summit attempt as well as our descent off-glacier. We have emergency equipment just in case, such as a first aid kit, glacier rigs, satellite phone, bear spray and even the possibility of a gun, but mostly we'll try to rely on our own preparation, decision-making and hard skills on the mountain to keep us out of trouble.

2) Our second goal is to adhere to all of the LNT principles and leave this place as beautiful as we found it. This not only boosts our own safety by deterring bears from sniffing around our stuff, but maintains the pristine quality of the place for visitors, human or not, to come.

3) Goal number three is TO HAVE FUN! Of course that is what this trip is all about. And by sticking to the first two goals, there's almost no way the trip will be anything but fun. For the trip to be fun doesn't mean we have to be dangerously ambitious or destructive to the environment. It simply means that we all must remember to relish in the joy of the mountains and each other. This, for the four of us, should be no problem.

4) Climb Iliamna and ski off. This is the point of our trip, although it by no means consumes our ambitions. It is simply the reward for having gotten ourselves as far as the summit. To ski off this mountain and to be some of the first to do it is something we all look forward to.

5) Ski ski ski! On the ridgelines around the mountain, at the base of the mountain, anywhere where our probes have told us there's no crevasses, our pits have told us that there's not going to be any avalanches, we want to ski. Because is there a better way to enjoy the mountains than to be able to ski down once you've reached the top? Again and again and again…

6) Make a big snow fort. Ok, this is sort of a silly goal. But we're silly people. As four overgrown children, half of our preparatory conversations have included ideas for the structural attributes of the biggest snow fort probably in the world that we plan on building. This will strengthen our winter-camping/mountaineering skills, but mostly it will be fun. Just imagine coming home from a day of skiing to the warmth of the quigloo, with a hot meal of rice and beans, and then walking through the covered walkway into the snow cave (including turrets and ice sky lights) to get a good night's sleep. I can't wait.

Travel plans from Denver to the Tuxedni and back:

Denver to Anchorage, May 23
Frontier Airlines flight 888 from DIA
Depart Denver: 6:50pm
Arrive Anchorage: 10:20pm
(Cost: $510/person roundtrip)

Anchorage to Homer, May 23:
Pick-up arranged with Libby's friend from home.
Approx. 250 miles one-way.
(Round-trip fuel cost for driver: $100)

Homer to Kenai, May 26:
Ride arranged with Libby's friend from home.
Approx. 80 miles one-way.
(Round-trip fuel cost for driver: $30)

Kenai to the Tuxedni, May 26
Via Alaska Air West
(Cost: $1300 total)

Tuxedni to Homer, June 9
Via Mako's Water Taxi
(Cost: $1100 total)

Homer to Anchorage
Ride arranged with Libby's friend from home.
(Round-trip fuel cost for driver: $100)

Anchorage to Denver
Flights to be arranged individually.

Skiliamna Itinerary:

Thursday-Friday, May 24-25:
This is our last minute provisioning and gear check in Homer. We will talk with rangers for a final area check, talking specifically about bear danger and seismic activity. We will disperse our itineraries among families, friends, rangers, our boat pilot and airplane pilot. We will set up an exact pick-up time and place, according to tides and weather, as Mako (our water taxi man) determines appropriate. We will get a good night's sleep in Libby's abode and get ready to Skiliamna!

Saturday 26:
We have arranged for Libby's friend to drive us to the Kenai airport (approx. 80 miles) in time for our tentatively scheduled flight with Alaska West Air service landing mid-morning on the Tuxedni glacier. We'll land at an elevation of 2,000 ft, about halfway up the glacier (map 1, point 1). Upon landing, we will probe for crevasses and determine a good location to cache all of our surplus equipment and food for when we return from the summit several days hence. We'll eat salami sandwiches and drink plenty of water to give us energy and keep us hydrated while we dig caches approximately six feet deep, which will deter bears and ravens even in the case of meltage. We will mark these with an extra long wand in case of some sicky gnar pow pow. Once a temporary camp is established and the caching is done, we will rope up and practice crevasse rescue techniques. If there are large crevasses nearby, we might drop into one, but we'll probably just practice on the snow with simulated crevasses. The crevasse danger at 2000 feet on the Tuxedni is extremely low according to previous climbers and our glacier pilot, making it an optimum place for a landing strip as well as our base camp.

Sunday 27:
Today will be spent traveling up the glacier towards our volcano. We will pack enough breakfasts, lunches, and dinners for four days in case of inclement weather, but if all goes well, we should be back at base camp the next day. We'll take our mega-mid and all our camping supplies, although we've heard there's a pretty sweet bergshrund to bivy in at around 5000 feet. This is the elevation we plan to camp at (see map 1, point 2), whether in the 'shrund or not. We will leave by 7 a.m., giving us ample time to travel 8 miles, gaining 3000 feet by late afternoon. We will travel as a rope team, being mindful to probe for crevasses and to avoid any obvious avalanche danger. If there is any avalanche potential we will dig test pits to gauge the hazard, and avoid the area if possible. We will not be wanding our path on this day, because we do not intend to descend if there is poor visibility and furthermore, whiteout conditions are unlikely at this altitude and at this time of year. We will however, bring our wands to mark any crevasses for our ski descent. We will travel up glacier to the west of the rocky spires, avoiding the crevasse field to the east. Once settled, we will go to sleep early.

Monday 28:
If the weather is stormy or it appears as if bad weather could be moving in, we will remain at high camp until conditions improve or our rations run out. If the weather is favorable, and no storms appear on the horizon, we will rise at 5 a.m. and have an

oatmeal and tea breakfast. As a rope team, we will travel up the east-northeast snowfield to the summit of the volcano. We will be ever mindful of crevasses and avalanche exposure, particularly right outside of camp. The steepest part of the climb is the portion just below the summit, so we will pace ourselves accordingly. Should the summit be attained, we will celebrate with a candy bar and high-fives. Because the area immediately below the summit presents some exposure and terrain hazards, we will decide whether to remain roped for this portion of the ski/snowboard descent. We will place a snow anchor and the first three skiers will be belayed from above. The fourth skier will be belayed from below. If, on our way up, we judge that conditions are not right for a ski descent of any section, we will cache our ski equipment and proceed on foot. Some human hazards exist at this point because the team will have been preparing and hoping to make the entire descent on skis or snowboard. We will address this issue through considered discussion beforehand and constant team-wide risk assessment on the mountain. Should the conditions be optimal for a ski and snowboard descent, we will descend slowly, staying together (except in avalanche terrain) and following our ascent route (which we've probed thoroughly for crevasses, ensuring our safety un-roped on the descent. We will dig a pit test on every aspect of the mountain we are descending, and ski to high camp to camp or grab our stuff and continue, depending on the mood of the group, the time and the weather. (For itinerary if we choose to continue down today, see tomorrow's plan). We will also remember to pick up all of our wands on our way down.

Tuesday 29

If the weather has permitted an ascent on the 28th, we will proceed back down the glacier to where we cached food and equipment at the beginning of the trip. Since we will be traveling downhill over a route that we've already deemed crevasse-free, this descent will be rapid and fairly easy, considering we'll be skiing with full packs. If there is enough crevasse danger that we've deemed it unsafe to travel un-roped from our high-camp (an unlikely situation), we'll continue on our rope and use our superb roped-skiing skills that we've practiced (to the dismay of other skiers) at less-populated skiing spots like Berthoud Pass in Colorado. Once we make it back to our cached supplies, we will begin the construction of our ice palace. We will take turns building, quarrying, and probing the surrounding area in a grid pattern for as far as we plan to wander. Probing will be an essential part of the base camp construction process, and we will be sure to select a site that will be secure and crevasse-free for the duration of our stay. Our construction will include but may not be limited to: a beautiful sleeping hut for four (igloo or quigloo), a mega-mid cooking area that is downwind and 100 feet from our sleeping place, and a covered bathroom (mini-quigloo style) that is also downwind. In the bathroom we will have our poop bags set up on ice blocks to act as a toilet. Our pee hole will be consolidated and as small as possible. We will keep our food, in its bear cans, cached and downwind from our sleeping area just in case a bear starts sniffing around (highly unlikely), and we will be mindful or our scraps when cooking.

Wednesday 30

Today we will continue the construction process of our palace, while two people travel roped to start the probing process of the hills that we intend to ski (map 1, points 3). Although there is little crevasse risk on these mellow-yet-sicky-gnar slopes, we want to

be extra-precautious, since nothing could ruin a great ski trip like falling in a crevasse. Bonus for the team who is selected to probe: They get the first runs!

Thursday 31
Ski, ski ski! On the places we've deemed safe from crevasses and avalanches. There should be plenty of terrain to keep us entertained for several days. After we're through skiing, we'll come home to the ice palace and cook a delicious dinner after a gourmet appetizer of cheese and yob!

Friday, June 1
Ski, ski and ski some more!

Saturday 2
Rope up and head out early in the morning toward Mt. Nick (map 1, point 4). We'll ascend Mt. Nick, probing for crevasses, and from the summit, we'll have a good vantage point of a possible second ascent up Mt. Iliamna, heading up the north face. If this route looks climbable and crevasse-free, we'll ski back down to camp and get ready to embark on a mission in the morning. If it doesn't look like a particularly enjoyable climb, we'll settle for getting up early and finding some new lines to ski the next day.

Sunday 3
We'll rope up and head out early today, either heading for a new spot to ski (map 1, point 5) or setting up a new high camp below the north face or Iliamna (map 1, point 6). We'll be sure to probe for crevasses, especially right below our potential second high camp, and go to sleep early for a summit attempt, or ski back to base camp, if we've decided merely to ski the slopes northeast of Iliamna.

Monday 4
Today, if we wake up at high camp (4000 feet), we'll get an early start and make our ascent up Iliamna's north face, marking crevasses for our descent down. We should reach the summit by midday, although it will be a rigorous climb, ascending 6000 feet in just under three miles. Once we've summited, we'll ski down-glacier, un-roped if we deem it safe (after rigorous probing on the ascent of course), and ski all the way back to base camp. If we happen to notice poor weather at any point, we'll gauge the situation, and make sure that we avoid any hazardous conditions by descending or remaining at high camp.

Tuesday 5
Back at basecamp, we'll ski, ski, ski whatever slopes we have decided were the safest and most fun. We'll relish in our accomplishments, whatever they may be, and celebrate by doing what we love best...skiing.

Wednesday 6
Guess what. Today we plan on skiing some more.

Thursday 7

Today we will enjoy our last day of skiing and wake up early to get in as many runs as possible. By now we will be excellent skiers, and experts on the topography of Mt. Iliamna and its Tuxedni Glacier. We will relish in the company of ourselves and make beautiful turns, which we will take pictures of and hopefully sell to outdoorsy modeling agencies.

Friday 8

We'll wake up early on Thursday morning and break down camp. Here is when LNT will be most important. We'll level our igloo, search for microtrash, and carefully tie up our poop bags into indestructible, bomb-proof packages that we will carry on the outside of our packs. With our bags packed, we'll move down glacier towards the Tuxedni River. Here we will confront the blue ice of the fern section of our glacier. We won't use ropes and will travel slowly and deliberately. A lateral moraine runs down the east side of the glacier, so if possible we will exit the glacier and travel towards the river on the rocks of the moraine. In order to avoid large river crossings and prolonged travel on the tidal flats at the mouth of the Tuxedni River, we'll exit the glacier to the northeast and travel down a gentle river valley (maps 2,3, point 7). As a crow flies, this distance is a little over two miles, but it should take the bulk of the day given potential marshes, etc. Our major concern here will shift from crevasses to bears. We will each carry bear spray and have it ready at all times and will talk, sing, wear bear bells and keep an alert eye out for bear signs—scat and nests and bears themselves. If after talking to the seasonal rangers, we decide to bring a shotgun, this is the time that we will keep it ready, although with the safety on at all times. We hope to camp in the flats, where the small un-named stream we'll be following meets the Tuxedni River. Because of the presence of bears, we will refrain from cooking this night, and will eat dry odorless food at least 100 yards from where we'll be sleeping. By now, as the gluttons we are, we will have eaten all of our food except for our last dinner and emergency rations, and so will have less concern for bears sniffing us out. The food and waste we do have will be stored at least 100 yards downwind from where we are sleeping or eating, tucked away in bear cans.

Saturday 9

Today we'll get picked up by Mako at the designated time, around 10:25 a.m., according to high tides, and motor on back to Homer. Before we leave, we'll be conscious of LNT principles and will be ever-watchful of bear encounters.

Risk Management:

In any wilderness experience, risks abound. Whether car-camping or climbing Denali, it is the management of these risks that make any trip successful. Our Mt. Iliamna adventure will call for the assessment of dangers that include: weather hazards, glacial travel across crevasse-laden areas, avalanches, rock and/or icefalls, wildlife, our general health and even seismic activity. The following is an overview of these major concerns.

Altitude: While high altitude health risks such as HACE, HAPE, and AMS are a very minimal concern with an elevation of only 10, 016 ft, proper acclimatization is still a must. A night at 5000 ft. is scheduled into our itinerary for adjusting to our surroundings and we have given ourselves at least two days to summit—waiting for sound weather and health. We will not fall into the young mountaineer trap of speeding up the mountain simply because we can. In addition, hydration will serve to assist us in acclimating to our snowy surroundings.

Weather: Mt. Iliamna is prone to very variable weather patterns due to the "collision of marine air masses from the Bering Sea and the Gulf of Alaska with continental air masses from Alaska's interior" (http://www.nps.gov/lacl/planyourvisit/weather.htm). Weather hazards include high winds, cold temperatures, whiteout conditions and mountain storms. We plan to closely monitor the weather predictions and make our own assessments everyday we're on the mountain. We will set turn-around times, stick to them, climb conservatively and respect the power and will of the mountains. We will not travel in white-out situations, since our time frame does not require hurrying on any segment of our adventure. We have planned enough time, food, fuel and entertainment to allow for a conservative, and thus safe approach and descent. Watching this weather is also extremely important when it comes to assessing avalanche conditions.

Health and Exposure: Concerns associated with exposure include frostbite, hypothermia and sunburn, as well as the possibility of wet sleeping bags due to rain! We will, once again, hydrate at every opportunity. We will never be far from our gloves, hats and dry clothing because being cold not only sucks but also can quickly become a serious situation. Additionally, we have no problem with eating peanut butter-hot cocoa-buttery sludge to keep warmth coming from within. We will combat the sun by wearing stylish glacier goggles and practicing constant sunscreen re-application.

Avalanches: Since we will not only be crossing potential avalanche terrain, but also skiing it, we will exercise extreme avalanche precaution. The first step towards our safety is the timing of our travel. We will pay attention to the weather and travel or ski only when the conditions seem right. We will be especially careful and cautious after large snowfalls. We will study the conditions and weather history of the area by digging pits at all available opportunities in every area we travel. We will take our angles, wear our beacons and follow all the wisdom we have gleaned from our backcountry skiing adventures and our AVY courses.

Ski Danger and other trauma injuries: Skiing adds another element of risk to this

expedition. Before arrival in Alaska, we will hone our skills, practice skiing with some weight on our backs and learn what each team member is capable of skiing. We will remain conservative while still having fun, as pushing ourselves too far can and will result in injury or serious danger. If any of does have an accident while skiing or climbing, we will use our WFR skills to try and remedy the situation

Crevasses: Some of the route that we have chosen to travel is crevassed. We will take the necessary precaution when traveling in these areas. There is the possibility that the snow bridges will be especially weak in the warm and sunny months of May and June so we will closely manage this risk. Where there is only ice, we will remain off rope to avoid pulling each other into danger. We will travel when the air is cold and the snow is hard and strong to best ensure our safety. We will probe, probe, probe frequently to minimize our risk and always travel perpendicular to the known crevasses. We will keep appropriate slack in the rope to ensure that the length of any fall is minimized. Our glacier rigs will always be practiced and set up correctly so that we can ascend out of crevasses, build anchors and arrest falls no matter the situation. Our hats and gloves will be ready and our layers accessible for dealing with any emergency situation or crevasse rescue. We have all practiced crevasse rescue, and will continue to do so as part of our training for this climb.

Bears: The respect of wildlife will be the most successful way to manage this risk. We understand that we are visitors to their home and do not want to alter their environment or habits. We will do any observations from a very far distance, never approaching them for any reason. It is less of a concern on an open glacier but we will still take every measure not to surprise to bears, especially on our final days off-glacier. We will make our presence known by talking to each other, singing (Libby has a beautiful voice) and wearing a bear bell or two. We will completely avoid breeding, nesting and feeding grounds. All of our other LNT techniques will hopefully make our presence unknown to them—taking care to store food and waste properly in bear canisters 100 feet downwind from where we cook, eat and sleep (forming a triangle). We will bring a strainer to strain remaining food bits from our grey water. These bits will go into the bear canisters with all other waste for packing out. In the chance of an encounter, we will remain calm, never run, never make eye contact and play dead with our packs on if attacked by a grizzly. If we are approached by a black bear, we will act intimidating until it scares off, or attacks us, in which case, we will play dead. We are considering the possibility of bringing a gun as a last resort but will take all precautions to have no need for it. We will make our gun decision once we've talked more with the seasonal rangers about up-to-date bear activity.

Gun Safety: We have not yet ultimately decided to bring a gun on this trip. The seasonal rangers at Lake Clark National Park and Preserve are our best monitors for bear activity and will be our best resource in terms of what extent we need to be precautious for the small time we will be crossing through known active bear areas. They will be able to give us the final word on whether a gun is appropriate or not in May before we climb. To ensure our safety if we decide to bring a gun, we all plan on completing a gun-safety training course at Rocky Mountain Defensive Associates in Colorado Springs in May.

Jake has dealt considerably with guns and will be the designated carrier, and just from what we know about standard gun safety, we will keep it unloaded unless bear danger is imminent, keep the safety on at all times, and never point it at each other. We will learn further safety techniques once we've taken our course if we do intend to bring it.

Seismic Activity: Mt. Iliamna is an active volcano. While the risk is minimal, seismic activity must be a concern. We have done research on the mountain's likelihood to explode and will continue to do so before embarking on our venture. Mt. Iliamna has not erupted in many years. The most recent eruption was in 1953, although its neighbor, Mt. Augustine, blew last year. Fortunately for us, there are 24-hour seismic updates on the web at the Alaska Volcano Observatory website: http://www.avo.alaska.edu/. Mt. Iliamna's status as a volcano is currently green which means little to no threat. We will be bringing a satellite phone so that we can be in constant communication with someone checking the website, as well as rangers and volcanologists to plan an evacuation if there appears to be seismic activity imminent. Once on the mountain we will watch for the following signs of explosion:

1. High frequency earthquakes (several days to years before eruption)
2. Low frequency earthquakes
3. Quiet stage
4. Slight earthquakes right before eruption
5. Explosion!

We will evacuate by our own means immediately in the occurrence of any considerable earth quaking activity or rise in the warning level as gathered from our correspondence with people back home. This situation is unlikely although possible, and since we are bringing a satellite phone, our risk is minimized.

Us: The inevitable human factor is always a concern in wilderness travels. We are capable of serving as both our own danger and as our safety net. Building our knowledge of the mountain, our mountaineering skills and our skiing limitations will make this trip successful. Once on the trip, we must pay close attention to our individual needs and group dynamics to keep communication strong and everyone happy and healthy.

Emergencies

Evacuation: Our party will be carrying a satellite phone for emergency situations that we ourselves cannot take care of, as well as regular updates on seismic activity. If need arises and one of us is too injured or sick for us to appropriately deal with, we will contact the NPS climbing rangers and plan an evacuation. We recognize that rescue situations put people at risk and self–rescue, utilizing our WFR and climbing skills will be our best option.

Emergency numbers are as follows:

Lake Clark Administrative Headquarters
(907)-644-3626

Lake Clark Field Headquarters
(907) 781-2218

Lake Clark Homer Outpost
(907) 235 7903

South Peninsula Hospital (Homer)
(907) 235-8101

Alaska Air West (Doug Brewer)
(907) 776-5147 / (877) 525-2577

Mako's Water Taxi
(907) 235-9055

Minimum Impact Techniques:

It is not only our plan, but our duty to adhere to Leave No Trace principles as learned in all of our previous backcountry experiences. Additionally, the snowy, glacial environment of Mt. Iliamna and the surrounding range calls for further habits to ensure both our safety and the preservation of such rarely traveled terrain.

Plan Ahead and Prepare
As visitors, it is our responsibility to leave the most minimal trace of our presence possible. This begins with our trip planning. We have contacted rangers, expedition outfitters and guides, researched previous expeditions and talked to Alaskan wise-men to best familiarize ourselves with the area. Utilizing this advice and our own experience, we have planned a route that will guarantee a balance between our own interests and abilities while still leaving a minimum impact on our environment. With a solid understanding of our route and terrain, we will bring only the essential amount of food in the least amount of packaging to limit our amount of waste. Additionally, we have planned to bring the most essential gear and clothing that will guarantee the success of our expedition because it ensures our own safety. We have all learned that just carrying two sets of good maps, compasses and emergency knick knacks will not save our butts when we need them to; we will be fully prepared with adequate hard skills and decision making skills to keep out of hairy situations. We have also accounted for known dangers and risks in the area—bears, weather, navigation, river crossings, avalanches and even volcanic activity—to allow for a safe and healthy return. These measures taken make us self-reliant and will, to our best ability, prevent the need for a rescue—as a rescue procedure makes extensive impacts on a wilderness environment. Lastly, we plan to leave a copy of our itinerary with the Lake Clark ranger station, the Homer LCNPP outpost, our water taxi service and glacier pilot, and with family and friends at home to ensure that others are aware of our current situation, and if an emergency were to arise, we would be that much safer.

Travel and Camp on Durable Surfaces
Traveling on snow and ice makes this portion of LNT very easy since both of these surfaces are incredibly durable. For our last night spent off of glacial and snowy terrain, however, we will need to find suitable surfaces for camping. If durable gravel bars are not an option, rock and low, dry shrubbery will be our second resort for minimizing this inevitable impact. Where there is running water, we plan to camp at least 200 feet from it. Lastly, if we see impact just beginning from previous travelers, we will disperse this influence by camping elsewhere.

Dispose of Waste properly
While glacial environments are durable, they are also pristine. We will make sure that the land we use remains as unspoiled as how we found it. Pack it in—Pack it out is a necessity for this expedition; we will be packing out all of the human waste we create, transporting it in super heavy duty bags off the glacier, and disposing it in a proper place when we get back to civilization. We will also concentrate our pee holes and disperse gray water appropriately. Being in a high bear danger area makes our disposal of waste very important and we will take every precaution to do so properly.

Leave What You Find
Seeing as though there isn't much beyond snow and ice to take or move from the glacier, this type of impact is not an issue. However, when we are off the snow we will leave all the pretty shells and volcanic rocks as we find them to ensure that future travelers enjoy the same immaculate beauty.

Minimize Campfire Impacts
We will be carrying stoves so fires will not be necessary and therefore not an issue.

Respect Wildlife
Wildlife sightings are usually not a major concern in a glacial environment. However, bears have been known to venture onto the ice and snow in Lake Clark National Park and Preserve. We will also be crossing through approximately two miles of a highly active bear area on our last day descending off-glacier. Bears are a huge risk to our safety and we will do any observations from a very fair distance, as well as adhere to bear safety tactics as outlined in our risk management section. It is our goal to make our presence as unknown as possible. If we see any other animals, we will be sure to follow similar protocol.

Be Considerate of Other Visitors
Although this area experiences very low use, there is a chance that we will come upon other visitors. Every backcountry traveler has different etiquettes and reasons for their trips, thus we will respect different living and traveling styles. Although we plan to have a lot of fun in the backcountry, we will minimize our noise that might negatively affect other parties. We will also adhere to all other LNT principles so that our impact will not make a lasting impression on the area, diminishing the beauty for visitors to come. Lastly, we will report any accidents, injuries or problematic activity to a Park Ranger to guarantee the success of later expeditions.

Gearliamna!

Individual Equipment:

Clothing:

Head:
Warm hat: Heavy fleece or wool w/ ear flaps
Sunglasses: Glacier gogs with full side coverage and cancer-blocking duckbill
Storm goggles
Bandanna and/or baseball cap

Upper body:
Polypros: (2) One=expedition-weight, both=stinky
Fleece jacket: Windproof and warm
Down Jacket: Thick and poofy for sittin' around
Wind/waterproof shell with a hood.
T-shirt

Hands:
Fleece liner gloves: Really nice ones to go under warm mittens.
Mittens: Water/windproof, breathable, super warm for when it's cold
Ski gloves: With removable liners, for dexterity and driability

Lower body:
Underwears for boys and girls
Shorts
Polypros: (2) one is light, one is thick, both are really fashionable.
Puffy pants: Full side-zip, wind/waterproof, synthetic fill. So nice.
Gortex shell: Full side zip, wind/waterproof

Feets!
Socks: (4) Wool. Some thick, some thinner.
Ski boots: That fit in ski bindings and crampons. (Extra boots for Colin the snowboarder)
Gaiters
Puffy booties: Really puffy, big insulated soles. For camp.
Tennis shoes for last day on the beach.

Gear:

Technical gear:
Skis and bindings: teles for Libby and Jake, AT setups for Molly
Snowboard for Colin
Poles for everyone
Skins for Libby, Jake and Molly
Snowshoes for Colin

Crampons
Harness
Chest Harness
Gear Sling with Glacier Rig: 4 locking carabiners, 6 non-lockers, prussic, additional webbing/prussic cord for anchors, pulley
Foot prussic
Tibloc (a light-weight alternative for an ascender)
Snow Picket: 1 each
Ice Axe with bungied tether
Beacon
Shovel
Probe
Helmet
Internal frame pack: 5-6000 cu. in. With straps on the outside for bear cans and poop bags and with a leash for potential crevasse fall.

Camp/Sleeping:
Sleeping Bag: -20 or so.
Sleeping pad: The blow-up kind
Sleeping bag compression sack
Trash bags: (lots) For lining sleeping bag sack, backpack and reinforcing poop bags
Poop Bags: Several each. Super-duper reinforced
Cup/bowl/spoon: Lid for bowl and cup
Water bottle: 2 wide-mouth Nalgenes
Thermos
Lip chappy with sunblock protection
Watch
Hand/foot warmers: For emergencies.
Pee funnel for Molly and Libby
Camera: For getting mad shots of us rippin' it.
Book: For when we're bored.
Toilet Paper: 1 roll each.
Hand Sanitizer
Pee bottle
Sunblock
Toiletries (toothbrush, toothpaste, etc.)
Bear spray (1 each)

Group Gear:

Map and compass (an extra map too)
Mega-mid
Wands: about 20
Snow Saw: (2) For making an impenetrable fort
Rope: 60 m, super-dry
Med Kit (see attached inventory)

Food (see attached budget)
4 Bear Cans for storing food
308 Rifle: For emergencies only! (See risk-management section)
Satellite phone (already obtained!)
Stove: (2)
Stove pad: (2)
Pots/pan/lids
Small strainer
Fuel bottle: (2)
Lighter: (3)
Extra fuel: (3 gallons)
Pots/Pans/Kitchen Utensils
Pocket knife: (2)

Repair Kit:
Duct Tape
Extra cordolette/webbing
Super glue
Wire
Lighter
Stove repair kit (which includes all necessary repair items)
Thermarest repair kit
Leatherman Pocket knife
P-cord
Sewing kit
Seam-seal/nylon repair material
Jerry-rigged ski binding material (hose clamps, wire, extra binding parts)
Extra tent pole

First Aid Kit Contents:

We need to be prepared for trauma injuries ranging from avalanche burial, crevasse fall, skiing falls, rock fall, burns from cooking, bear attacks, and other miscellaneous injuries including a dreadful and extremely unlikely shotgun accident. As WFRs, we should be able to deal with any of these situations to the best of our ability, utilizing our first aid kit and knowledge of the situation. We are also prepared to deal with a practical range of non-trauma-related ailments such as upset stomachs, headaches, colds, infections, etc. We will be carrying a sat. phone at all times, but we realize that a third party rescue effort is our last option in an emergency.

Medications:

-Benadryl: antihistamine for most minor allergic reactions, bug bites, poison ivy etc. Although none of us have any known allergies, we'll be ready just in case.
-Cephalexin (e.g. Keflex): This antibiotic is used for infections of the ear, chest, skin, bones and bladder.
-Cough suppressant and Decongestant (e.g. Sudafed)
-Ibuprofen: pain reliever and anti-inflammatory
-Imodium: relief from diarrhea
-Pepto-Bismol: common stomach maladies and distresses
-Tylenol: pain relief
-Vicodin: heavy duty pain relief

Trauma Care and Supplies:

-3 rolls sterile gauze
-2 rolls athletic tape
-Assorted Band-Aids
-tincture of benzoin compound
-wound closure strips
-microthin film dressings (e.g. Opsite)
-moleskin gel wound coverings (e.g. 2nd Skin)
-soap impregnated sponges (e.g. Green Soap Sponges)
-antimicrobial wipes
-rubber gloves
-trauma shears (all purpose and useful)
-irrigation syringe
-Sam splint (we also have several apparati that can substitute for splints, e.g. ski poles, backpack frames)

Skiliamna Food List:

(2 lbs/person/day)= 2(4) x 14 = 112 (we will bring 120 to allot for extra rations)

Dinner/Lunch:

- Tortillas—3 lbs --$3.00
- Cheese—30 lbs--$150
- Jerky (will dehydrate ourselves)—2 lbs-- $8.00
- Tuna/chicken Packets—5 lbs --$10
- Summer Sausage—15 lbs--$75
- Potato pearls—2 lbs--$5
- Couscous—2 lbs--$3.00
- Spaghetti—2 lbs--$3.00
- Wild/Brown Rice—3 lbs--$12
- Gorp—14 lbs--$50
- Dried Fruit (will do ourselves)—4 lbs--$10
- Baking Mix (pancake mix)—1 lb--$2.50
- Dried Hummus—1/2 lb--$3.00
- Dehydrated beans—1.5 lbs--$3.00
- Dried soup mix—1/2 lb--$ 5.00

Breakfast:

- Oatmeal/Cream of wheat—4 lbs--$4.00
- Granola—2 lbs--$6.00
- Brown Sugar—1lb--$1.50
- Peanut Butter—6 lbs--$18.00
- Honey—1 lb--$4.00
- Hashbrowns—1 lb--$3.00
- Bacon—1 lb--$3.50

Miscellaneous/Snack:

- Oil—16 oz--$1.00
- Spice Kit—1 lb—n/a
- Flavor packets—1 lb--$5.00
- Drink mix—4 lbs--$10
- Hot cocoa—2 lbs--$7.00
- Candy bars/cliff bars—7 lbs--$20
- Dried veggies (will dehydrate ourselves)—n/a--$10.00
- Garlic clove—n/a --$.50
- Brownie/ cake mix—2 lbs--$4.00
- Tomato base/vegetable base/chicken base—n/a--$4.00
- Instant coffee—1/2 lb--$4.00

Total= $450

Budget and Efforts to Reduce Expenses:

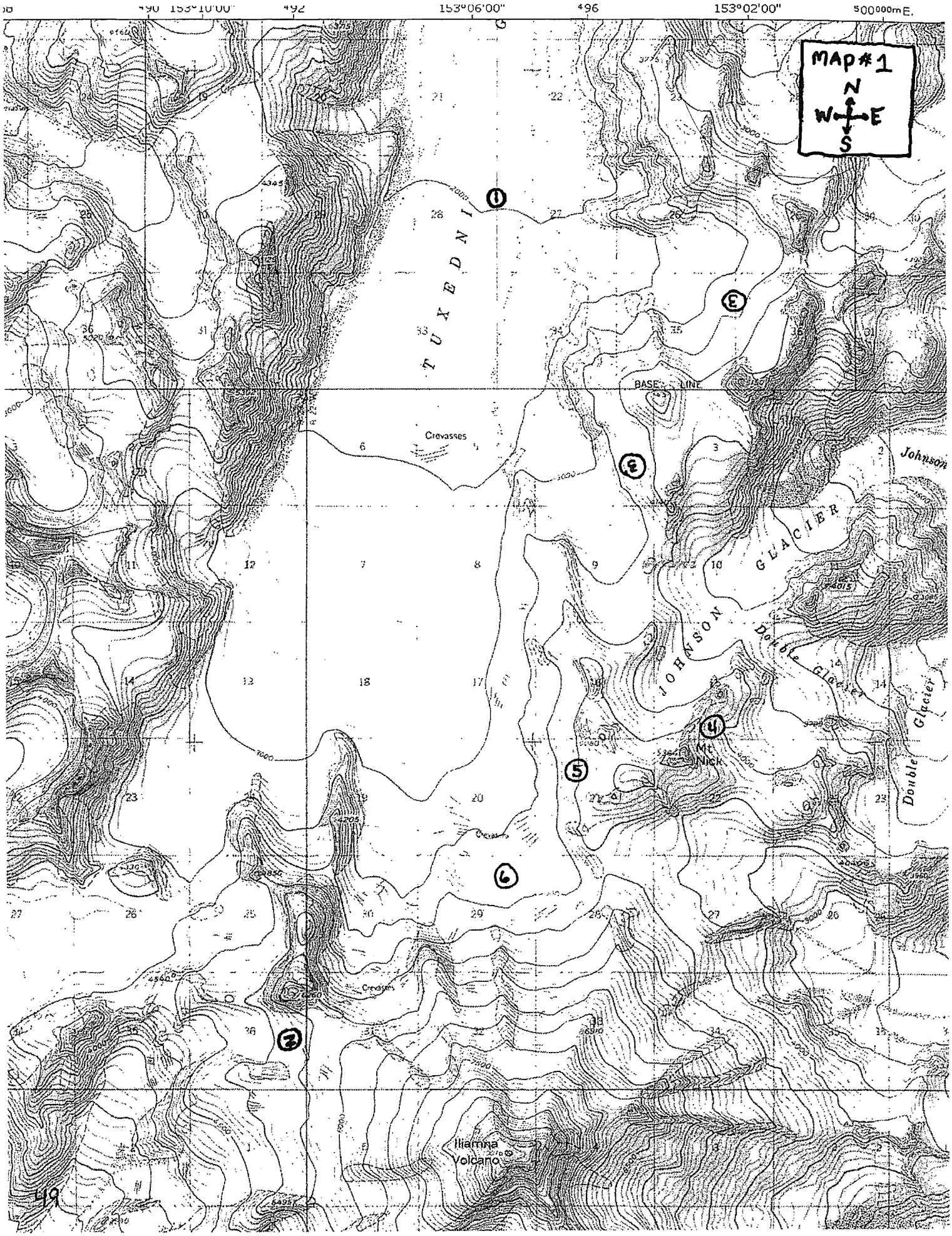
Travel Expenses Total: $4,670
- Flight from Denver: $2,040
- Glacier flight: $1,300
- Water taxi: $1,100
- Gas: $230

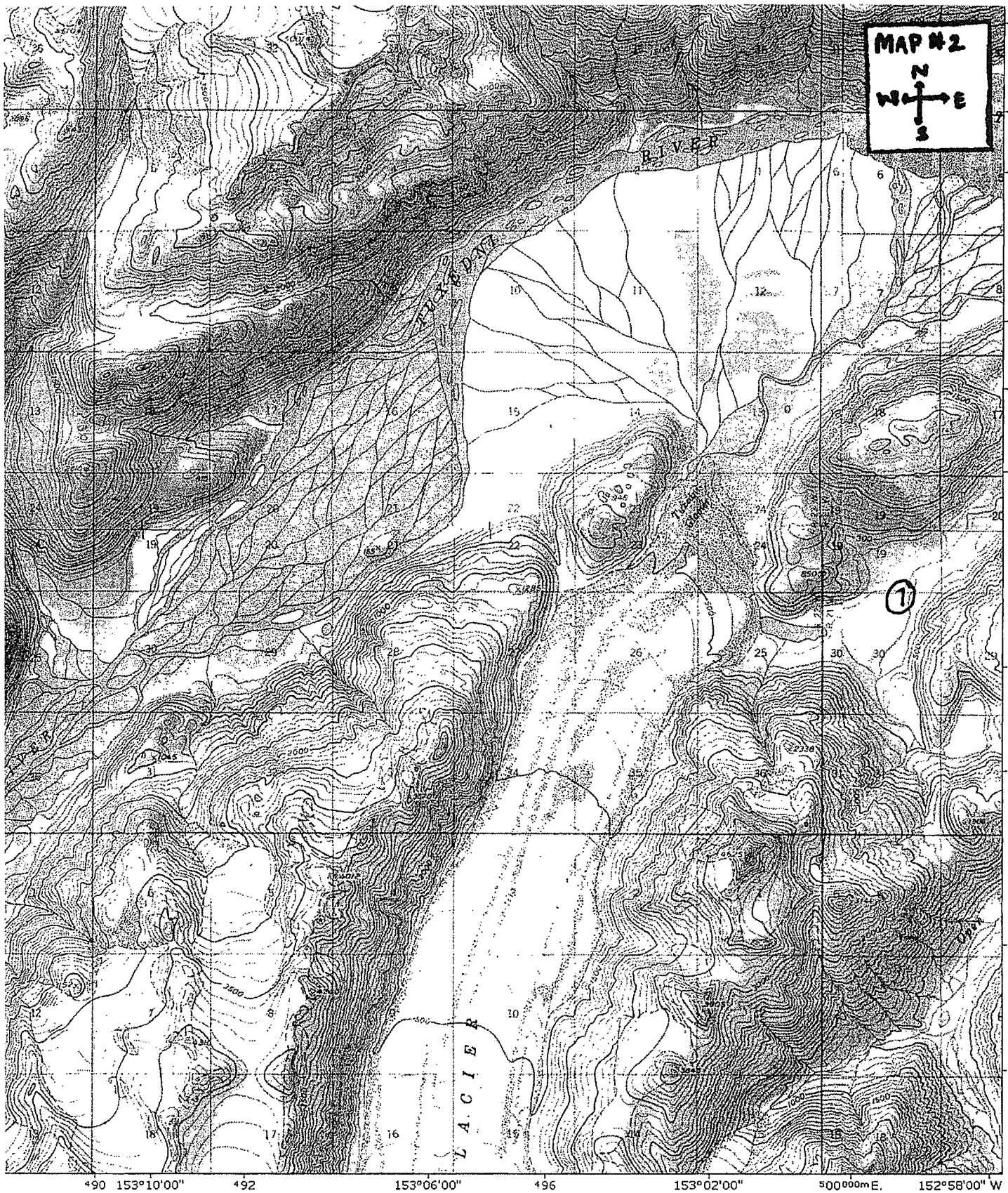
Satellite phone service: $165
Food: $450
Fuel: $30

Total Cost of our Skiliamna expedition: **$5,325** ($1,332/person)

On the micro scale, we are planning on dehydrating as many of our own snacks as possible, thus eliminating the need for healthy, expensive snacks like dried fruit and delicious things like jerky. We also planned for a water taxi back to Homer, which will not only be incredibly scenic, but will be $200 less expensive than another glacier flight. We have arranged for rides to and from the Anchorage airport, which will be far more cost-effective than the alternative flight from Anchorage to Homer, which costs about $90 per person. The flight from Denver that we chose was the least expensive flight from any of the major airlines for that time of year. We already have a satellite phone that is currently out of service. We have looked into the most basic, short-term plan, and found the cheapest service to be for one month, costing $165. We feel that since this area is so remote, and so potentially dangerous due to the geologic makeup of the area, communication with the outside world is mandatory, and much more cost-effective than delayed rescue attempts if any of the volcanoes in the area were to start showing significant signs of eruption.

Thanks to the Ritt Kellogg Memorial Fund Board Members for taking the time to read our proposal! ~The Skiliamna Team


MAP #1
N
W
E
S
153°10'00"
153°06'00"
153°02'00"
500 000mE.
TUXEDNI
BASE LINE
Crevasses
JOHNSON GLACIER
Double Glacier
Mt Nick
Iliamna Volcano
1
2
3
4
5
6



TN MN

19°

Scale 1 : 63,360
Contour Interval 100 ft

1 .5 0 1 MILES

3000 0 3000 6000 FEET

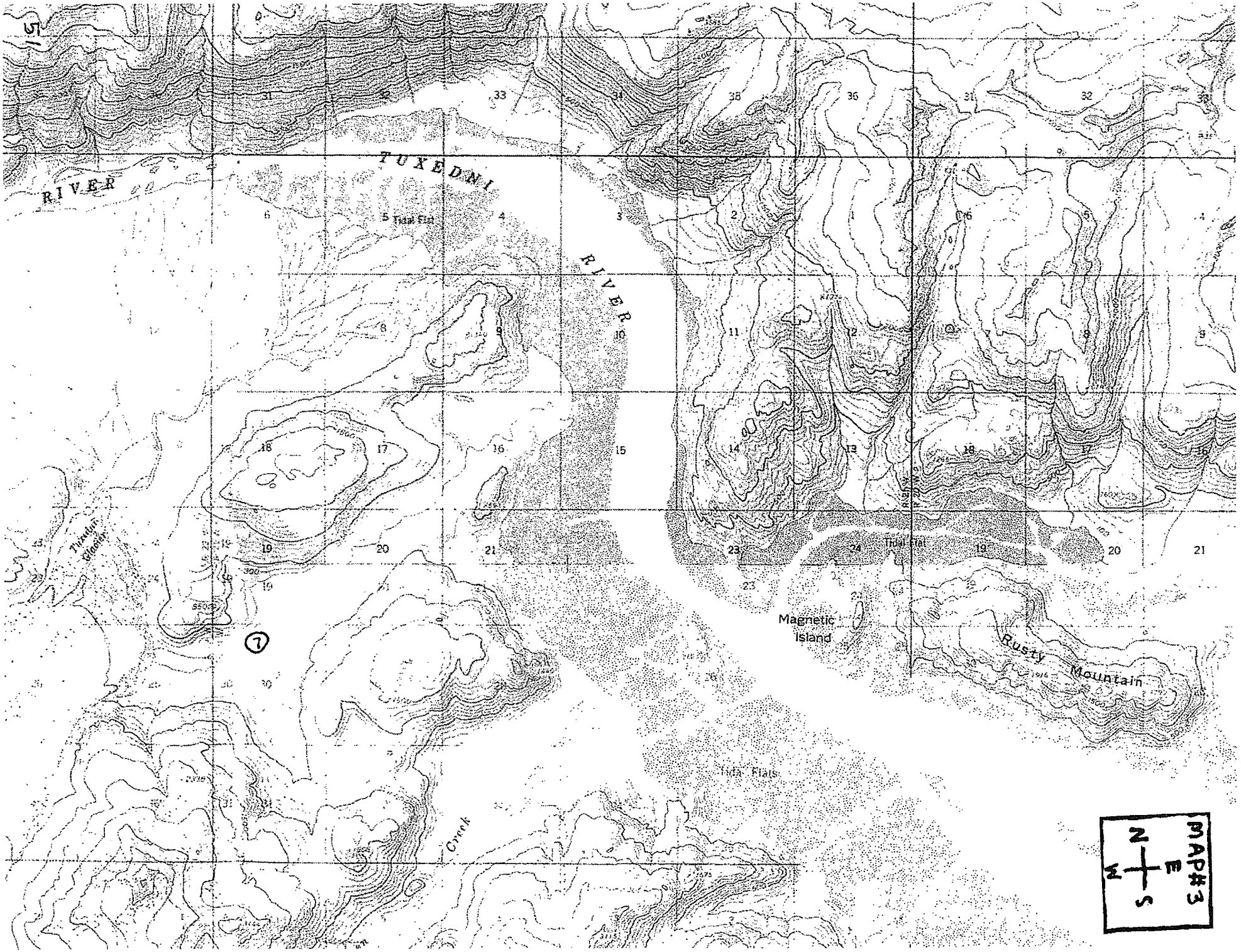
1	2	3
4	5	6

1. Lake Clark ..., AK '70
2. Lake Clark ..., AK '58
3. Kenai (C-8), AK '79
4. Lake Clark ..., AK '71
5. Lake Clark ..., AK '73

NAD83/WGS84 UTM Zone 5

$ 9.95

50


TUXEDNI
RIVER
RIVER
Tuxedni Glacier
Magnetic Island
Rusty Mountain
Tide Flats
Creek
MAP#3
N
E
S
W

Skiliamna Post Expedition Report

Jake O'Brian, Colin Kelly, Libby Bushell, Molly Perlman

The group in front of our ski hill and Mt. Iliamna, immersed in clouds behind

The end of our journey and all of our gear!

Final Itemized Budget

Total Allotted:	$4800.00
• Food	$512
• Gas Money for Jake and Colin	$500
• Flight to and from Alaska for Molly	$583
• Flight from Alaska to home for Jake	$357
• Gas from Anchorage→ Homer and Homer→ Kenai and back from Kenai→ Homer	$200
• Doug Brewer's Alaska West Air flight to the glacier (+tip)	$1385
• Mako's Water Taxi (+tip)	$1200
• Stove Fuel	$40
• Extra Alaska West Air Flight	$600
Total Spent:	$5377

Specific Comments On:

- Food and Rationing:
  We ate extremely well on this expedition. Before arriving to Alaska, Molly shopped at both Trader Joes and Whole Foods in Los Angeles, bringing tons of California cheeses and tasty snacks. Meanwhile, Libby, Colin and Libby's dad dehydrated seasoned meats and veggies. We also hand picked young wild nettles that we often fried and threw into pastas or breakfast dishes as a much-loved addition. Bringing bacon was a large morning motivator, wasabi peas kept us happy and our Gatorade made our bacon grease tasting water more than bearable. The one downside to our overzealous rationing was that we brought way too much food. Having to trek an unplanned 10 miles up glacier to our base camp did not bode well with the amount of food we decided to bring. Our crackers were literally crushed and we were forced to leave quite a bit cached down glacier where we had landed. Needless to say, we were happy with our good eating but disappointed with how much we had left and had to pack out.

- Equipment:
  Everything we brought was essential for our expedition—except maybe

the Frisbee. The Megamid tent worked very well for our needs but we didn't expect the snow to be as slushy as it was and we wish we had one more, large tarp or a floor for the Megamid. The Megamid was, however a poor choice when the weather became windy. Our mountaineering gear served us well hiking up glacier but became great for use a tent stakes once the weather became horrible. We did, however carry extra weight with the gear that we didn't use but felt that it was necessary had the weather become wonderful. Colin's snowboard played a very special role as a sled in our journey. Not wanting to ditch all of our good food and supplies, we rigged up a duffle bag to the sled and dragged excess weight the extra 10 miles. Another much appreciated item were the work gloves purchased in the hardware store in Homer. The "frosty-grip" brand gloves were essential to our shoveling and digging abilities. Also crucial last minute purchases were the bright yellow plastic raincoats that helped lighten the frustration of the heavy rains. We were equally grateful for the extra foam sleeping pads that made sleeping on the ice an enjoyable experience. The only equipment that didn't work well were Molly's alpine boots that made her feet ache and toenails severely bruised. Colin also felt that he brought one too many pairs of boots that just ended up getting wet and that he didn't need the plastic mountaineering boots after all.

- What Worked, What didn't, and Why:
  We had a huge frustration with being flown to a low elevation on the glacier. Having to schlep the gear we wanted an extra 20 miles round trip set us back in our schedule and forced us to miss out on windows of good weather. On the other hand, it did allow us to gauge the amount of time it would take us to get down glacier—a leg we had barely factored into our trip. Once down glacier and in the inlet, we found ourselves on the wrong side of the massive river as a result of the moraine leading us that way. We unfortunately could not cross the river or the proceeding braids and had to re-hire Doug Brewer to fly us to our water taxi pick up. In this unfortunate case, looking at the map served us no good and the only resolution would be to hike all the way back up the glacier and come down on the other side of the large moraine. With the amount of gear we were carrying and our limited time frame, this was not an option. What did work well for us, on the other hand was where we put our base camp. We were only a 15 minute hike to what we called our "ski hill;" the only piece of hill that didn't slide in an avalanche.

- Travel logistics:
  Traveling was nearly flawless. The boys had a safe and leisurely drive from Colorado Springs to Anchorage, met up with Libby and picked Molly up from the airport on schedule. The drive to Homer and then to Kenai was safe and sound. The most frustrating element of our travels,

however, was being dropped off at such a low elevation on the glacier and so far from our intended base camp. The return trip was troublesome—having to coordinate yet another flight, attempt river crossings and a muddy, frustrating walk to our water taxi but all elements worked out in the end.

- Leadership and Group Dynamics:
  Somehow, despite massive amounts of tent time, all four of us got along extremely well. Leadership was divided and respect for individual skills and interests were considered daily.

- Safety and Risk Management Concerns:
  We were, unfortunately stuck with some pretty loose snow and avalanches slid on all sides of the basin we were camped in, but we remained safe and cautious. We never ventured beyond what we were comfortable with and our extra plane ride kept us safe from the river's harm.

- Specific route descriptions & concerns:
  Our specific route was limited to: up the glacier, around a bend and down the glacier. Because of the many avalanches, our intended route was, for the most part, not followed. We explored the base of the volcano and up an arm directly north of it to about 4 or 5000 feet. We then returned down glacier, into the river valley and met our water taxi on the Tuxedni River just west of where the moraine fed out.

- A daily course log:

Saturday, May 26	Flew with Doug Brewer of Alaska West Air to Tuxedni Bay and shuttle from the beach to one mile up the glacier in his SuperCub. We landed 10 miles and 2000 ft. below our destination, set up our Megamid and cook a tasty meal of fettucini with nettles.
Sunday, May 27	We woke up to a breakfast of bacon and more nettles. We then went through our gear and rations and cache a tremendous amount under snow and rocks, rigged up a sled on the snowboard and hauled ourselves about three miles up glacier.
Monday, May 28	Yet another hauling day! We traveled about 3.5 miles to a camp right before some small crevasses.

	We are getting better and better at building the snow wall to surround our Megamid and this time around, we build a connected ice kitchen.
Tuesday, May 29	Today is our final 3.5 mile haul to where we decided to put our base camp and it is a complete white out. Molly was leading the rope team, compass in hand and we were still walking in curved lines. A few hours later, we happily dropped our packs, set up the Megamid and relax.
Wednesday, May 30	Today is yet another day of pretty bad weather. The rain/snow was coming down hard and we were in yet another white out. Regardless, we grabbed our shovels and built a two person snow cave that Molly and Jake tested out that night.
Thursday, May 31	Today, in more bad weather, we expanded our snow cave to make it sleep four and added a tunnel entrance. Once finished, Libby and Molly tried to dry off in the megamid while Jake and Colin hiked 20 minutes towards the peak and up a arm to check the avalanche conditions and ski down.
Friday, June 1	Today we all ski in what we deem as the "Tempest." The weather seems great until we all at the top of our "ski hill" and the rain and wind starts to blast us. Regardless, we ski down and build a terrain park on top of our snow cave. The sun comes out for about thirty minutes while we practiced our moves and then we hunker down again in the poor weather.
Saturday, June 2	Today was our first bout of reasonable weather and we decided to explore. We ski toured almost to where our higher camp would have been and check out a really gnarly icefall. We then spent the afternoon skiing our hill.
Sunday, June 3	Today is a beautiful day and in the

	sunshine we climbed higher up on the arm above our ski hill to about 5000 feet.
Monday, June 4	Today is back to horrible, nasty weather and we are forced to hang out in our Megamid. This turns out to be less than dry and enjoyable and we have to fix the tent multiple times. We do, however have a chance to go through our rations and gear, pack some of it up and get ready to head down.
Tuesday, June 5	Today is our first day heading down the glacier. We traveled to our second-nights' camp in horrible rain and with painful feet.
Wednesday, June 6	Today we headed further down in some sunshine to where we first landed on the glacier. We dropped our packs and sorted through our cache, re-packing and organizing ourselves for the last leg of our journey. With more gear, he headed on to the start of the moraine. We set up our first camp not on ice or snow and explore the moraine. We found some amazing rocks and a giant sink-hole into the glacier.
Thursday, June 7	Today we headed down the right side of the moraine into a terrain of many impossible river crossings and frustrating mud walking and bushwacking. We were able to cross a few braids but in our last attempt, Colin and Jake were almost taken by the river. We decided to call Doug Brewer and arranged for a pick up and shuttle the next morning to where our water taxi could pick us up.
Friday, June 8	Doug Brewer awakens at 5 am for a 6:00 a.m. pick up time. The weather is horrible again and blowing pretty hard. The shuttle to the beach takes about an hour for all four of us. We decided to have Molly and her hurting toes to fly

	back to Kenai with Doug, grabbed the car and meet the rest of the crew in Homer. Libby, Colin and Jake crossed some treacherous, human-eating mud to meet the water taxi but made it back to Homer later that afternoon.

Thank you again for this wonderful opportunity! –Jake, Colin, Libby and Molly