

Incident Report

Date of Incident: 2019-12-28

Stephan Mantler

HÁFJALL EHF. Dynjandi, 781 Hornafjörður, Iceland

1. General Information

Seriousness:	Accident – Observed / Rescue
Date of incident:	2019-12-28
Reported by	Stephan Mantler 011274-4559 (SM)
Tour leader	SM
Name of tour	Ice Cave Day Tour
Place of incident	Unnamed moulin on Breiðamerkurjökull (N [REDACTED]° W [REDACTED]°)

Description of incident

–ALL TIMES APPROXIMATE –

I (SM) was on a ice cave day tour on 2019-12-28 with two clients. The weather on the day was fair, with minor precipitation but very warm temperatures (5-8°C) and negligible wind. Following heavy rains on the previous days, the glacier was polished glassy smooth and we had previously observed it to be quite slippery.

We were returning from “Treasure Island’ when at 12:58 I received an ICE-SAR text notification on my cell phone of an incident on Breiðamerkurjökull, indicating an injured woman. I then also overheard on the open TETRA channel 10 (which is commonly used by guides in the area) that other guides were coordinating efforts related to the incident and struggling to muster the necessary manpower. Over these conversations it became clear that contrary to the ICE-SAR notification the main casualty was another guide ([REDACTED]).

I quickly conferred with my clients and we decided we would abandon our further plans and help. I then announced on TETRA that I was about 20 minutes out from where I believed the accident had taken place and would join the guide currently taking care of the casualty ([REDACTED]) as quickly as possible. Despite my TETRA radio being open to all ICE-SAR channels, I decided to remain on 10 to allow communication with other guides (my radio does not have a scan option to monitor multiple channels).

We arrived on scene (N [REDACTED] ° W [REDACTED] °) at 13:25. I observed a small group of tourists standing on a flat area above a moulin, at the bottom of which I saw the casualty leaned against the bottom of the slope slightly off the fall line from where I was standing. About 3m away and more directly in the fall line was a short-head axe as is typically used to chop steps on the glacier. [REDACTED] hat ascended to direct us towards the location. A knotted rope was fixed to the slope with ice screws at both ends to facilitate descent and the washed out / melted remainders of steps chopped into the ice were visible. The slope along this path was perhaps 20°, with the direct fall line sloping down to a much steeper angle. The total depth of the moulin was approximately 15 meters.

One of the tourists, who spoke next to no English but was assisted by the others with translation from and to Mandarin, complained of being wet and minor pain. I instructed my own clients to join them and wait for further instructions, knowing that another guide was already on the way to look after them and escort them off the glacier.

[REDACTED] and I descended to the casualty. He was awake and oriented, breathing normally and with normal skin color. Heart rate was slightly elevated. He complained of being cold and in pain due to his right arm injury. Short term memory appeared intact with a clear recollection of events leading up to and following the incident. Importantly, he stated to have been wearing both a backpack and helmet, both of which presumably absorbed much of the impact energy of his fall. Sensation and motion in all extremities were intact. The right arm was stabilized with a sam-splint on top of his waterproof clothing, applied by [REDACTED] with an improvised fixture made of cordage.

Upon removal of the splint for closer inspection I noticed bleeding underneath his waterproof jacket. After cutting away the layers of fabric a 6-7cm wound became apparent at the approximate location of the fracture, with moderate bleeding. No bone protrusion was immediately apparent, but the location led to the suspicion of an open fracture. I used

two rolls of sterilized gauze to apply gentle pressure around the cut and re-applied the same split. I was assisted in these efforts by both [REDACTED] and [REDACTED] who had arrived in the meantime.

We then attempted to insulate him from contact heat loss from the ground using various items from our backpacks (waterproof pack bags) as well as covering him with down jackets and a tarp. In the process more guides started to arrive, and we used additional items to keep him warm, divert the stream he was sitting next to, and beginning preparation for evacuation.

Over time members of the ambulance and rescue teams arrived (I do not recall exactly who arrived at which point). The aforementioned guide also arrived to escort the waiting tourists off the mountain, and I instructed him to both take particular care of the lady who had gotten wet and ensure that she would be more thoroughly checked once off the ice. I also offered my own clients to follow the group down but they declined, choosing to stay. I judged they may be of assistance and in no immediate danger, so I agreed. [REDACTED] joined the guide and the tourists left. The casualty was examined by the arriving ambulance team, the wound rebandaged and stabilized and pain medication given. We then proceeded to pack him into a stretcher and prepared for evacuation. Due to the relatively easy angle a 2:1 drop loop main line was first considered, but then converted to dual direct pull.

Evacuation with movement of the casualty began at approximately 15:40. A secondary line was used to provide lateral support on the side slope. I and three other rescuers carried the stretcher up, supported by the main line. A redirection to a second main line led us sufficiently away from the moulin to convert to belay for descent off the glacier.

The glacier was sufficiently smooth and the slope a very long angle that we decided to attempt to let the stretcher slide over the ice, supported by four rescue and belayed by a succession of single main lines. Single ice screws and munter belays were set in 40-60m intervals, with belay teams leap frogging each other. This was judged appropriate for the very low angle of the glacier and allowed for rapid changeovers between the main lines and swift progression.

We arrived at the bottom of the glacier at 16:30, covering 1.5km and 100m of elevation. Further progress was greatly encumbered by deep mud and very loose proglacial gravel; the stretcher wheel was somewhat helpful but the extremely uneven terrain remained a much greater burden than the descent off the glacier, requiring seven rescuers to stabilize the stretcher as well as possible. It was decided that there was no good landing site for the Coast Guard (LHG) helicopter, and a rope rescue would be made. After the arrival of the LGH ground team the casualty was transferred into the helicopter basket, and at 17:25 he was lifted up and into the helicopter.

Having completed the evacuation, we proceeded to return to our vehicles. A final challenge was that the bridge that is commonly used to traverse the river when coming off the glacier where we did had recently been destroyed by heavy flooding, so we waded through the river in groups of three. Currents were approximately 2m/sec with water depth perhaps 70-80cm in the deepest section and the river bottom made of large boulders. In short time we arrived back at the vehicles, concluding the incident.

Actions taken by tour leader

(included above)

2. Personal information

Name of passenger	[REDACTED]
Description of injury	Suspicion of open fracture, right arm
Transferred to hospital?	yes
Transported by ambulance?	no
Other type of transportation?	Evacuation by ICE-SAR, airlifted by LHG
Police called to the scene?	Police notified but not on scene
Other rescue teams involved:	ICE-SAR, Ambulance, LHG

3. Passengers

Were any other group members in need of trauma support? No

Was trauma support offered? Mine yes, others unknown

Other actions taken concerning passengers:

Evacuated off the glacier

Witnesses to the accident

Unknown – possibly clients of [REDACTED] (did not acquire contact information)

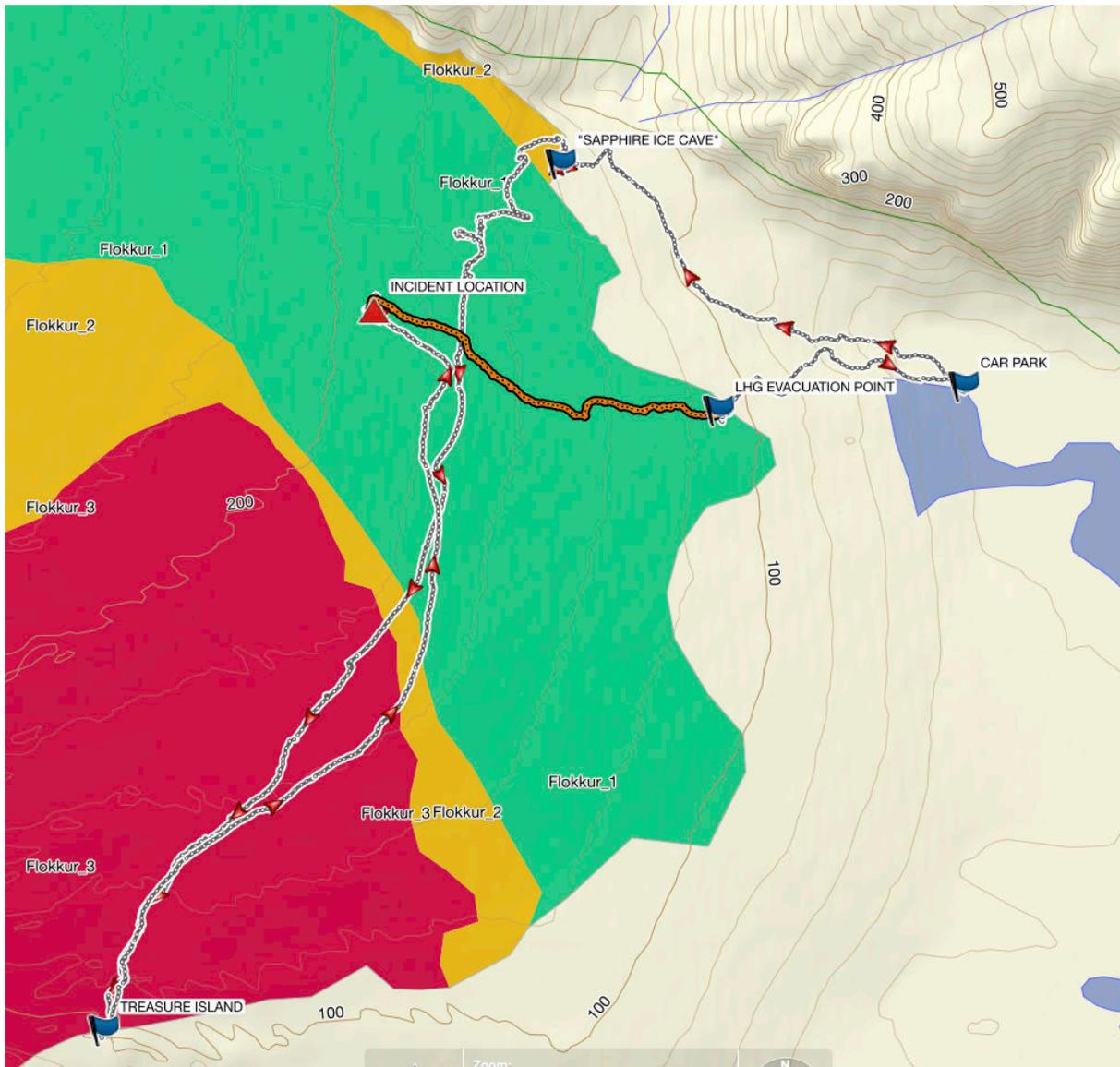
4. Organisation

Was the insurance company notified? N/A (other company involved)

Actions taken in the wake of the incident None specific to the incident

Overview Map

Evacuation route highlighted red. Rest of track shows my (SM) track of our day tour.



Incident site



Moulin from just above the casualty's location. Red rope ours in preparation for evacuation and roughly follows the suspected fall line. Blue rope was already present when I arrived.



Looking down into moulin, standing on the flat ledge visible in the above image top center. Red rope enters center left. Note chopping axe just below. Impact evidence is visible just above the ice axe (see below and next image)





Impact evidence.