

highest one was about half way up in the overhang. The rope was still attached to his harness when I arrived and there was nothing attached to it between the leader and the last piece of protection, so no pieces pulled. In addition, there was no protection in the crack above the last piece so it wasn't a case of a 'biner failing either. I'm not sure whether the leader fell and was initially stopped short of the ground (in which case he would have hit the large ledge) and then lowered, or whether he grounded out, but his knot was disturbingly easy to untie, suggesting that the rope had not held a great deal of force.

There are some lessons. Whatever led to this accident, my completely uneducated opinion is that he would have lived if he had been wearing a helmet. Certainly his head wounds would have been much less. Know the rock you are climbing on. These fellows had not done much climbing (if any) at Ragged. Leading on Traprock is VERY serious business. There is no fixed protection here and many of the routes demand subtle protection. A "G" protection rating may be conditional on your knowing or finding the one place where a particular brand and size of micro-nut fits. If you don't own that brand and size, it's "R" for you. In addition, the rock is soft and very fractured giving it the tendency to break when you least expect it. This may cause you to fall on easy terrain and cause your "bomber" protection to fail. I'm not sure I've ever backed off a Gunks route due to fear, but I've backed off many a Traprock route, as has almost everyone I know who climbs here. (Source: Lanier Benkard, Yale University)

FALL ON SNOW—UNABLE TO SELF-ARREST, CLIMBING UNROPED, INADEQUATE BOOTS AND CRAMPONS, INEXPERIENCE

Montana, Glacier National Park, Mount Jackson

On January 8, Kyle Borchert (20), Shad O'Neel (22) and Taggart Schubert (25) obtained a five-day backcountry permit for a winter trip into the Lake Ellen Wilson area, via the Sperry Trail, of Glacier National Park. They completed the voluntary climber registration for climbing Mount Jackson and listed Borchert as the leader and their experience as "novice." They departed the same day and reached about 4.5 miles up the Sperry Trail where they camped.

They continued on the next day and reached Lincoln Pass where they spent the next two days pinned down by a storm, the first night in a tent and the next night in a snow cave. On the 11th they moved on to Lake Ellen Wilson where they established "base camp" for climbing in the area. The weather had improved considerably by this time.

They decided to attempt the summit of Mount Jackson (3,064 meters) and at 0630 on the 12th began their ascent, equipped with technical climbing equipment and extensive bivouac gear. Borchert and O'Neel were wearing heavy climbing boots with 12-point crampons, while Schubert was wearing heavy pack boots with 4-point instep crampons. Each had an ice ax. Their ascent generally followed the Gunsight Pass route directly up from the pass. Because of terrain and high wind encountered, they remained roped and protected the ascent using snow pickets all the way to the summit.

They reached the summit about 1445 and immediately began their descent via the Northeast Ridge route due to extreme wind conditions. They decided to unrope a short distance below the summit to move faster. The wind was pulling on the rope and continually throwing them off balance. The slope angle seemed to ease up and each believed they could self-arrest if needed.

They descended approximately 600 meters to a point above several cliff bands with Borchert and O'Neel route-finding about 50 meters ahead of Schubert. Borchert and

O'Neel were stopped at the top of the cliff bands, discussing route alternatives, when they heard Schubert fall above them, then saw him slide past in a self-arrest position. Schubert was unable to arrest his slide before falling over the first cliff band, estimated to be about 15 meters high. Schubert continued sliding down a steep snowfield separating the cliff bands, appearing flaccid and no longer attempting to self-arrest. Schubert then slid over another cliff band, estimated to be about five meters high, and onto the main snowfield where he continued sliding out of control for about 120 meters before coming to a stop.

Borchert and O'Neel descended rapidly to Schubert and found him to be alive but in grave condition. Schubert had suffered a fractured femur and was having difficulty breathing (later determined to be multiple fractured ribs on both sides).

Borchert and O'Neel dug a snow trench and made Schubert as comfortable as possible. O'Neel departed at 1530 to get help. Borchert stayed with Schubert trying to shelter and keep Schubert warm, an effort which proved difficult in their exposed position, continuous high winds, drifting snow and sub-zero temperatures. Schubert's condition steadily deteriorated through the night. About 0230, he succumbed to his injuries and the cold.

With remarkable effort, O'Neel made it all the way out and reached a phone just after midnight on the 13th and notified Park Rangers of the situation. A first-light helicopter response, with ALS and technical rescue equipment, was organized and dispatched to the scene. In extremely marginal flying conditions, Borchert was rescued from the scene, where he was suffering initial stages of hypothermia and frostnip to his hands and feet. Schubert's body was then recovered.

Analysis

The actual cause of the accident remains a mystery. The start of Schubert's fatal slide was not witnessed. Contributing factors may have included Schubert's footwear used on wind slab and ice. While Schubert was not reported as having any difficulty during descent, the cumulative effects of fatigue, extreme cold and wind, haste, and dehydration may have contributed to diminished attention and caution at the initial, fateful moment. Schubert's inability to self-arrest within the first 50 meters could be attributed to the steep, hard slab conditions and/or to lack of experience and training, rendering his efforts ineffective. Schubert was not wearing a climbing helmet but, incredibly, received only superficial head injuries in the incident.

While the climbers had some experience in winter mountaineering, none had ever attempted a winter ascent on a major peak. They had borrowed much of the technical equipment they carried and reported minimal training and experience in technical application. Schubert was the least experienced. (Source: Charlie Logan, SAR Coordinator, Glacier National Park)

FALL ON ROCK, PLACED INADEQUATE PROTECTION, PROTECTION PULLED OUT, NO HARD HAT, MISCOMMUNICATION

Nevada, Juniper Canyon, Red Rocks

On November 11, three climbers were ascending Olive Oil (5.7), a seven pitch route in Juniper Canyon and were on the last pitch when the belayer told the leader (46) that there was only ten feet of rope left. Shortly thereafter, the leader called, "Off belay." About 20 minutes passed without any communication between her and her partners.