

leg around the 2750 meter level of Willis Wall. Amenta was rescued by myself and Ranger Chase from the 2630 meter level of the upper Carbon Glacier utilizing a Bell 206 helicopter at 1945 on July 5. Amenta was evacuated to Kautz Creek and transported by ambulance to Good Samaritan Hospital in Puyallup where he was admitted with a broken leg. Rosenthal was located by helicopter on July 6 at 0720 at the 3375 meter level on the west flank of Curtis Ridge. He was rescued via a one-skid landing from a rock outcrop by the Bell 206 helicopter after indicating to me via hand signals that he wished to be rescued and was sick/injured. Rosenthal was evacuated to Kautz Creek and transported via ambulance to Good Samaritan Hospital at our request for evaluation of possible pulmonary edema. Rosenthal reportedly refused treatment at the hospital and was released by ambulance crew enroute. (Source: Roger Semler, Ranger, Mount Rainier National Park)

Analysis

This incident appears to be a classic example of climbers getting into terrain beyond their capabilities after becoming disoriented in whiteout conditions and getting off their intended route. It also appears that their rate of ascent contributed to the altitude sickness and pulmonary edema experienced by Rosenthal. Both of their packs were extremely light and I question their preparedness for multi-bivouacs on the upper mountain. During the actual rescue, there was no doubt in my mind that both victims desired to be rescued. In particular, the situation with Rosenthal warranted immediate rescue due to the objective rock and ice fall hazards he was subjected to and his confirmation via hand signals that he wished to be lifted off the wall and was also sick/injured. The successful use of the one-skid landing on Willis Wall also proved to be the quickest and safest rescue technique considering all the objective hazards and the uncertainty of an ETA for a hoisting-capable helicopter. (Source: Roger Semler, Ranger, Mount Rainier National Park)

AVALANCHE, WEATHER

Washington, Mount Baker

On August 3, 1986, Ian Kraabel (23), director of Summit Mountain Guides from Seattle, was guiding Steve Raschik (21), Tom Waller (19), and Kurt Petellin (20) on a climb of Mount Baker after two days of mountaineering instruction on the lower slopes of the glacier. The three students had no prior mountaineering background. The weather was clear, calm and warm—typical of early August.

They got an early start from their camp at the base of the glacier and were well under way by 0330. They followed the standard route up the Coleman Glacier to a point about 2700 meters, where they diverted to the base of a steep snow slope above which hung an ice fall known as the Roman Mustache. The party stopped and discussed whether to return to the standard route on the Roman Wall or climb to the summit via the ice fall. After about 30 minutes, the party began to move again—up the slope toward the ice cliffs above.

All four were roped together on a nine millimeter spiral laid rope (similar to REI Skyline rope, but not UIAA rated). The route goes directly up an open, broad gully about 120 meters where it exits to the left on to a sloping snow ledge that traverses upward below the ice cliff until it connects with a steep snow slope leading up and out of the exposure of the ice cliff. At 0700, the guide led the rope team up the gully and was

starting to traverse to the left on to the ledge when the front section of the ice cliff, still 20 meters up slope, began to crumble and slide down on the climbers. The ice cliff was about 60 meters long and 12 meters high. Its collapse was probably due to normal glacial movement from above.

The end person on the rope, Petellin, was at the extreme right edge of the avalanche while the rest of the team was farther to the left and more in direct line of the debris. The avalanche engulfed the first three within seconds, pushing them down slope. Petellin was drawn into the avalanche by virtue of his roped connection to the others. About 175 meters down slope, as the glacier angle became quite gentle, the avalanche debris spilled into a 2.5 meter wide crevasse, 22 meters deep, filling it to the top, except for the extreme right hand side of its path, and continued down slope where it came to rest leaving a deposition zone estimated at 90 meters long, 55 meters wide, and six meters deep near the center.

A climbing party lower on the glacier witnessed the entire event and rushed to assist, arriving in about 20 minutes from the time of the avalanche. They immediately found Waller. He had been hurled over the crevasse on the right hand side of the avalanche path where the crevasse had only been filled half way up. He was about ten meters from the lower lip of the crevasse and six meters from the right hand edge of the debris, buried to his chest in a sitting position, facing down slope. Although seriously injured, he was alert and oriented.

Other climbers were hurrying up the glacier to assist and would arrive within 20 minutes, so the first two on scene decided to postpone extricating Waller while they made a hasty search for others.

Almost immediately, they located Petellin, yelling up from nine meters down in the section of the crevasse that was partially filled up by the avalanche. He was initially buried to his waist, but had dug himself out by the time he was located. After a brief conversation with Petellin, the two climbers top side continued their hasty search for more survivors. Unfortunately, no sign of the two other members of the rope team was to be found. The two rescuers returned to assist Waller. Other climbers had arrived by now and aided in extricating and moving him out of the avalanche debris to a safer position. Appropriate first aid was administered.

At 0745, members of the North Shore Rescue, Vancouver, B.C., arrived on scene. They had been engaged in a recreational climb, but were carrying their rescue frequency radios with them. They made immediate contact with their base in Vancouver, who alerted the Whatcom County Sheriff's Office.

With the additional assistance of the Vancouver rescuers, Petellin was extricated from the crevasse by means of direct pull on a rope clipped into his harness, along with his own assistance.

Shortly thereafter, a rescuer rappelled into the crevasse, belayed from above on a separate rope, to search for the missing two. The rope that had been clipped to Petellin was followed for a short distance, but soon plunged down. It was followed to a depth of over one meter, but digging in the ice was very difficult, so after ten minutes of digging, it was decided that further search would be conducted on the surface of the debris in the crevasse. After 20 minutes more searching and no additional evidence found, the searcher was pulled out of the crevasse. The threat of another avalanche still remained high and would offer no opportunity for escape for anyone in the crevasse.

Searching on the surface of the debris as it lay spread across the glacier revealed only a hat and a glove lying on the surface near the top of the deposition zone.

Bellingham Mountain Rescue was called at 0830. By 1145, the two surviving climbers

were evacuated in a Navy helicopter. Continued danger from additional avalanches resulted in the search for the guide and the other client being called off by noon of July 4. The bodies were sighted on September 4 and extricated from the crevasse by September 6. They had obviously been crushed and deeply buried in the crevasse by the avalanche. (Source: From a report by Rich Murphy of the Bellingham Mountain Rescue Council)

Analysis

The aftermath of this accident resulted in the usual amount of press coverage, some of it relating to the particulars of the accident, much of it having to do with the sport of mountaineering in general.

Kraabel did not have the permit required of firms hiring out as guides on Mount Baker. However, one of the guides who does have a permit is Dunham Gooding, director of the American Alpine Institute guide service. He said that route was a normal, generally safe way to scale Mount Baker, a prime training site for alpine climbers.

"Our climbers are in that area very frequently and we're familiar with the ice cliffs that dropped the debris (which triggered the avalanche)," Gooding said. "We know that those cliffs drop debris about three or four times a year in very small amounts, so the cliffs are unsafe maybe one minute each year."

Gooding added that the snowpack was relatively stable. However, it was noted by other climbing parties that had been camped lower on the glacier that throughout the night numerous ice avalanches had been heard coming from higher on the mountain, indicative of a freezing level that had remained quite high throughout the night.

These are the only pertinent facts we have on the conditions at the time of the accident. (Source: J. Williamson, gleaned from conversations, various issues of *The Seattle Times*, and the report by Rich Murphy of the Bellingham Mountain Rescue Council)

FALLING ROCK, INEXPERIENCE, POOR POSITION

Washington, North Cascades

On August 7, 1986, George Newberry, director of the National Outdoor Leadership School's (NOLS) Northwest Office, reported that Neal Bibbins (23) had been hit in the face with a rock.

While ascending fixed rope on a wide, shallow gully below Perfect Pass, rock fall started from a treed area adjacent to the route above Bibbins. Warning was shouted by observers from above. Bibbins looked up and appeared to be struck as he immediately tried to pivot and duck. A helmet and safe-belay had been used. Bibbins was approximately 15 meters from the bottom of the gully when struck. An instructor reached him in about one minute and immediately helped him back down out of the gully. Preliminary first aid was administered to puncture wounds of the face. Within 15 minutes, a move to secure camp for the night and the evacuation process for the next day was initiated. Assistant leader Marit Snow hiked out to Glacier Ranger Station and reported the accident to Newberry. Newberry requested permission to fly into the accident site and transport Bibbins to Baker Lake. Permission was granted. (Source: William Leiter, North Cascades National Park, and Jim Ferguson, NOLS leader)

Analysis

The proper immediate response to rock fall must be stressed: Bibbins should not have looked when the warning was shouted. Injury might have been avoided if he had instead