

The climbing party shouted and shot up a flare. This is what attracted the attention of Davis and Hicks, two snowshoers who notified Snow Ranger Kenneth E. White.

Source: Snow Ranger Kenneth E. White.

- Analysis:* 1. The party was very well equipped for a climb of this type. The leaders also chose a route that was not too difficult. A problem, however, was that the party was too large for this route. A smaller party would have been much safer.
2. Even though Boullion was an experienced climber he made an unforgivable mistake, he *unroped*. He should have been belayed across, even though it was only 10 feet or so.
3. It was not established whether he had his wrist strap on or not but perhaps if he had not lost his ice-axe he could have stopped himself.

*Washington, Stuart Range, Mt. Stuart.* On 30 June Charles K. Rothgeb (23) was leading four inexperienced persons on a climb near the base of Mt. Stuart. During the climb one of the members lost his ice-axe so Rothgeb gave him his. Later as they crossed some ice he gave another his crampons. At one point shortly thereafter at about 2300 Rothgeb fell into a moat between rock and ice and under a waterfall. The other members of the party dropped down a rope and Rothgeb tied onto it. They then tried to pull him out. Rothgeb reportedly reached the lip of ice but then was unable to climb out and his companions did not have sufficient experience and training to rescue him. His companions left at about 0100 the next day. He died of exposure some time after that.

Source: Bill Asplund, Hal Foss, and newspaper account.

*Analysis:* Basic climbing procedures with the group properly equipped and trained for travel on ice and snow would have prevented this accident. Once in a moat, four persons should have been able to rescue him with only rudimentary knowledge. Rothgeb also had no prussik loops that could have facilitated his rescue. This accident demonstrates the problem that when a leader of an inexperienced party gets into trouble there is no one to rescue him.

*Oregon, Lewis and Clark Park.* On 31 July Donald Lewallen (19) and Steven Maxwell (18) climbed from Lewis and Clark Park, arriving on top of the butte around 1530. After establishing a rappel point around a nearby tree, they prepared to rappel down the face of the butte. The rappel was set down over a rock shoulder of 25 or 30 feet and thence into a free rappel of some 80 to 90 feet. According to Don, he used a diaper sling for the rappel seat fashioned from a continuous loop and fastened with two snap links with gates opposite, and a waist sling from  $\frac{1}{4}$  inch nylon rope. The rappel was made with the aid of a brakebar. For safety, a three-pass prussik loop was tied on the rappel rope to the waist loop. The prussik slings were 8 mm. perlon, and the climbing rope was a single 11 mm. Don estimates that he started down the rappel at 1550. His prussik hung up a couple of times but caused no trouble.

The rope was about 15 feet short of a safe landing place and he found a resting place while Steve lengthened the rappel rope using a goldline sling. Don then continued his descent. He estimated the total time of the

rappel at about 10 minutes. When he reached bottom, Don sent up his diaper sling and waist loop tied to the end of the rappel rope.

Steve then tied in, apparently using the sling around his chest (not his waist and not attached to the diaper sling as Don had done) held together by a snap link from which the three-pass prussik safety sling was affixed to the rappel rope. According to Don, Steve descended about 40 feet with no trouble before he became visible. As Steve came over the lip of the overhang, he hung up just below the overhang and away from the face of the cliff. Steve shouted that his prussik was jammed and he was seen to be working the knot with both hands. After 10 or 15 seconds he yelled to Don for help. Don then went to a nearby home and requested that the County Sheriff be called. Don reported that Steve was visible from the house apparently still trying to get free. The Sheriff's Deputy arrived within 10 to 15 minutes at the house, picked up Don and arrived at the top of the cliff approximately 30 minutes later. The rope from which Don was hanging was tight across the cliff.

The Deputy reported that the initial call was received at 1734 and he arrived at 1740. He had requested 150 feet of goldline from the Sheriff's precinct and that Fire District 14 be called. When Fire District 14 arrived additional rope was lowered over the cliff and Don went down to the ledge where he checked for Steve's pulse and other signs of life. Steve was hanging from the prussik with the snap link forced over and against his chin causing the head to be forced back against the rucksack. Steve was raised to the top of the bluff and resuscitation was applied. Time: 1850. Cause of death was listed by the Medical Deputy as asphyxiation by hanging, death resulting by the cutting off of the arterial supply of blood to the brain. No broken vertebrae were detected.

*Source:* Mountain Rescue and Safety Council of Oregon Critique (Chuck Edgar, Chairman, Chuck Adams, Recording Secretary, and Hank Lewis).

*Analysis:* From a review of the equipment and methods used it was evident that Steve Maxwell was experienced in basic rock climbing and rope handling techniques. The use of a diaper rappel sling and chest loop with prussik has been an acceptable practice among climbers. Such an arrangement is found in *Freedom of the Hills*, a standard text on climbing techniques. However, the cause of death in this accident is directly attributable to the loss of arterial blood supply to the brain caused by pressure of the carabiner on the neck. Unfortunately, the safety prussik should have been tied directly to the rappel seat or the chest sling should have been tied directly to the rappel seat. This method is advocated and endorsed by several climbing authorities.

While not positively determined there is compelling evidence that a piece of tape used to mark the center of the rappel rope was the original cause of the prussik jam.

#### Recommendations:

- 1) A chest sling, when used, should be tied into the diaper sling in a manner which will prevent its riding up and compressing the chest or bringing pressure against the neck and head.
- 2) Some means other than tape be used to mark the climbing rope.
- 3) Prussiks used in rappelling should be checked under tension to make sure that they are not beyond reach of the arm.