

him. Burlingame was swept 100 feet down the chute, riding the surface of the avalanche. He slammed into a rock, breaking two ribs. Wion watched from above.

RESCUE SUMMARY

Burlingame was in pain, but got up and slid down the couloir looking for Haas. He turned his beacon to receive, and saw that it had been damaged when he smashed into the rock. Burlingame worked his way down the path and eventually picked up a signal, but it was erratic. He would pick up a signal, and then lose it, which slowed his search. He figured he had lost six or seven minutes before Wion came down and was able to latch onto the signal coming from Haas.

Finally, the men got a signal they could follow, and it led them to Haas' burial location. The rescuers probed and struck Haas. It took about 10 minutes of digging to uncover him from three to four feet of snow. Altogether, Haas had been buried about 20 minutes, and he was not breathing when Burlingame and Wion dug him out. The two rescuers tried CPR without success. Some minutes later, the Jackson Hole Ski Patrol arrived and took over CPR efforts. They used a toboggan to transport the victim to the resort medical clinic. An ambulance brought him to St. John's Hospital, where he was pronounced dead.

AVALANCHE DATA

Hourglass Couloir has been described as a "very active and dangerous avalanche path," and therefore mountain management decided to make it a permanently closed area for the danger it posed to skiers and their potential rescuers. The couloir faces northeast, leeward of the recent prevailing winds, and it had been loaded with about two feet of fallen and wind-transported snow. The avalanche was classified as SS-ASu-R2, with a two-foot crown. The slide began at about 10,100 feet elevation and fell about 600 feet vertical down the 40-degree chute.

COMMENTS

These men were risk-takers and were known and respected for their ability to ski technical lines in unforgiving terrain. Because avalanches were an ever-present threat, they always carried—and were proficient in using—avalanche rescue equipment. But on this day, it was a cruel twist of fate that a rescuer's beacon broke, which delayed the recovery too long for the victim to survive.

GOBBLERS KNOB, NORTH OF BIG COTTONWOOD CANYON,

20030215

UTAH | February 15, 2003

One backcountry skier caught, buried, and killed

WEATHER AND SNOWPACK CONDITIONS

The winter of 2002-03 had been a lean snow season in the Wasatch Range east of Salt Lake City. Two different weak layers had formed in the thin snowpack, the first during a spell of clear weather in December and the second in January, again during clear skies. These were layers of faceted snow that had been buried by snow storms that followed.

From about February 10 to 14, a warm storm system had moved into the Salt Lake City and Wasatch area. The snow line was around 8,000 feet, and the six to eight inches of

snow that fell above that elevation was heavy and damp. Winds, though, had been mostly from the southwest and had formed areas of shallow slab, and the Utah Avalanche Center had described the snow surface as a mix of firm crusts and damp powder. On Saturday, February 15, the UAC stated, “there is a ‘Moderate’ danger of triggering an avalanche into deeper weak layers on northwest through easterly facing slopes, steeper than about 35 degrees and above about 9,000 feet elevation, and on very steep rocky slopes with hard wind deposits.” This would prove to be accurate.

ACCIDENT SUMMARY

Gobblers Knob, at 10,246 feet elevation, is the highest summit on the ridge separating Big Cottonwood Canyon, to the south, from Millcreek Canyon, to the north. On Saturday, February 15, a party of five experienced and avalanche-trained backcountry skiers was touring in the Gobblers Knob area. All were equipped with beacons, probes, and shovels. One of the party was Alan Davis (46), who did volunteer work for the Friends of the Utah Avalanche Center.

They had successfully skied several other steep slopes in the area earlier in the day without incident. Near the end of the day, on their last run, they descended the northwest face of Gobblers Knob to get to their car in Mill Creek Canyon. Around 17:30, Alan Davis skied first while the others waited in the trees at the top. After a few turns, he triggered a one-foot hard slab avalanche on the 40-degree slope. Though initially small, the avalanche quickly widened to 400 feet across. This larger volume of snow funneled into a narrow, twisting gully and fell 1,700 feet vertical. Davis was buried in the debris field in the gully.

RESCUE SUMMARY

The rest of the group descended as fast as they could, their beacons on receive. It became slow going in the narrow gully, where the snow had made a jagged pile. Nevertheless, they eventually picked up the beacon signal and pinpointed the burial spot. They dug out Davis from four feet of debris after a 25-minute burial. He did not respond to CPR.

The survivors made a 911 call on a cellphone and waited for the rescuers. Darkness had fallen when a LifeFlight helicopter flew into the area, but survivors guided it to the site with their headlamps. The rescue mission concluded after midnight when Davis’s body was brought out by sled through Mill Creek Canyon.

AVALANCHE DATA

Persistent Slab avalanche

The avalanche was triggered in a steep, rocky area with a thin, weak snowpack. It released at an elevation of about 10,100 feet on a 40-degree north-northwest-facing slope. The crown initially was only one foot deep and 100 feet wide, but after descending a short distance, it broke out additional slabs on either side, making an avalanche about 400 feet wide. It fell 1,700 feet vertical, with the debris funneling into a gully in the lower track. The slide was classified as HS-ASu-R3-O.

On the slope that avalanched, the snow cover was shallow, and the rocky ground underneath made a good environment for facets to grow—in other words, a facet farm. A similar slope with a deeper snow cover may not have avalanched.

COMMENTS

This was an experienced group of skiers who knew the terrain and avalanche potential of the Wasatch Range well. They carried rescue gear and were skiing one at a time. A combination of a snowpack feature and a terrain feature contributed to this fatal

avalanche—despite the safety measures taken by the group. First, the shallow snow cover made it easy for the snow to turn to facets, and second, the gully below was a terrain trap that squeezed the debris into a long and deep deposit.

DRY GULCH, NORTH OF LOVELAND PASS, COLORADO

20030217

February 17, 2003

Two climbers caught; one buried and killed

WEATHER AND SNOWPACK CONDITIONS

The first two weeks of February brought dry and windy weather to the Front Range of Colorado. The winds, though, created blowing snow and widespread slab formation near and above timberline. Then, from February 13 to 17, Loveland Ski Area recorded 14 inches of new snow. Winds during this period were from the northwest, west, and southwest, and wind speeds averaged 15 to 20 mph, with gusts to 45. There was plenty of blowing snow above timberline that loaded all east-facing slopes. On February 17, the Colorado Avalanche Information Center rated the avalanche danger as Considerable.

ACCIDENT SUMMARY

Interstate Highway 70 (I-70) passes through the Eisenhower Tunnel 55 miles west of Denver and at an elevation of 11,000 feet. Skiers and riders at Loveland Ski Area are cruising the mountainside above the tunnel, and the terrain surrounding the ski area offers a wide expanse for backcountry skiing, climbing, and snowshoeing.

Monday, February 17, was the Presidents' Day holiday, and early that morning, Ken Booker (48) and John Brill (46) left Denver for a snowshoe climb of a summit north of Loveland Ski Area. They parked at a pullout off of I-70 and started their trip by following the Herman Gulch Trail to the saddle east of Point 13,294, between Herman and Dry Gulches. This peak is known in climbing circles as the Citadel, but its lesser-known name is Snoopy, because of its resemblance to the Peanuts character lying on his doghouse.

Booker and Brill climbed the east ridge toward the summit of the peak. At some point below the summit, they removed their snowshoes in order to climb the rocky ridge below the summit. On their descent, they did not follow their ascent route, and instead dropped onto a broad southeast-facing snow slope to traverse back to where they had left their snowshoes. Around 15:15, and the two men were kicking in steps when they triggered the avalanche.

It was a large avalanche. John Brill recalled what happened: "Ken was 50 feet behind me. It happened before you could blink an eye. After hearing a huge, thundering boom, we were going downhill. I just out of pure luck caught myself with my pickax and fell only about 50 yards."³ Booker was not able to self-arrest and was swept far down the slope and buried. The debris field covered six acres (about 4.5 football fields) and was up to 12 feet deep.

Neither man had avalanche rescue gear, and Brill was not able to spot his friend anywhere on the slope. He made a 911 call on his cell phone at 15:21.

No rescue
equipment

RESCUE SUMMARY

The Clear Creek Sheriff's dispatcher notified the Alpine Rescue Team, the Loveland Ski Patrol, and the Keystone Ski Patrol (with an avalanche rescue dog), but it took more