

AVALANCHE DATA

The avalanche fractured four feet deep, and tapered to two feet deep on the sides. It was 300 feet wide. The weak layer was a 0.5cm-thick layer of surface hoar or near surface facets, sandwiched between two dense (330 kgm³) layers of wind drifted snow. The avalanche ran 460 vertical feet.

TYPE	TRIGGER	R SIZE	D SIZE	BED	ASPECT	CHARACTER
HS	ASu	3	2.5	O	E	P

COMMENTS

“It appears the party was very lucky,”³⁹ investigators noted. Studen was able to escape the slow moving avalanche. If he had been unable to escape, he would have been carried over a rock outcrop and “would almost certainly have been injured or killed.”⁴⁰ The pair’s luck continued when they did not trigger a second avalanche in the adjacent avalanche path, despite the fact that the paths had similar aspects and loading patterns.

Terrain trap

HONEYCOMB CANYON, SOLITUDE SKI AREA, UTAH |

19960202b

February 2, 1996

Two ski patrollers caught during mitigation; one buried. The victim died two weeks later in the hospital.

SITE

Solitude Ski Area is in Big Cottonwood Canyon, in the Wasatch Range east of Salt Lake City. Honeycomb Canyon is the western portion of the resort, and is managed as hike-to terrain. It is a series of avalanche paths through cliffs that offers challenging skiing for expert riders. The Boundary Chutes are east-facing chutes on the far end of the ridge.

WEATHER AND SNOWPACK SUMMARY

There was little snowfall early in the winter season. The snow cover was insufficient to allow public skiing into Honeycomb Canyon. What little snow was on the ground faceted.

An “extremely intense”⁴¹ precipitation event began in mid-January. Over two weeks, about 12 feet of snow fell in the Wasatch Range with strong winds. There were large avalanche cycles, with avalanches breaking in the faceted snow to the ground and running larger than they had in 10 to 50 years.⁴² The snowfall event ended January 31.

ACCIDENT SUMMARY

On January 2, a team of four ski patrollers began mitigation work in Honeycomb Canyon. This was the first mitigation in Honeycomb Canyon for the season. Jeff Brewer (36) was on the team. He had patrolled at several Wasatch ski resorts over the previous 20 years, and “was one of the most experienced patrollers at Solitude.”⁴³

The team worked their way out and down the ridge. At Boundary Chutes, two patrollers waited on a high point of the ridge to act as avalanche spotters. Brewer and one other patroller moved to the top of the avalanche path. The second patroller stood uphill of a tree, on the low-angled ridgeline. Brewer was also on the flat ridge, a few feet in front of the tree. They threw a hand charge onto the path below them.

The avalanche broke onto “the completely flat part of the ridge.”⁴⁴ Both patrollers were caught. The second patroller was able to hold onto the tree and was not carried. Brewer was swept about 800 vertical feet through sparse trees and over cliffs.

RESCUE SUMMARY

Terrain trap The three patrollers rushed to the debris, but it “was difficult to descend...down the steep avalanche path and get through the cliffs.”⁴⁵ They reached the debris, conducted a transceiver search, and dug 1.5 feet down to Brewer’s head within 15 minutes. He had been buried vertically, with his head up. He was not breathing and did not have a pulse. Rescue breaths failed to inflate his lungs because his chest was packed so tightly in the avalanche debris.

It took another three minutes to dig down and free Brewer’s chest. The patrollers began rescue breathing again. A Life Flight helicopter was able to land on the avalanche debris. The medical team was able to establish Brewer’s pulse on the flight to the hospital. He remained on life support, in a coma, for two weeks before expiring.⁴⁶

AVALANCHE DATA

The avalanche broke three to 10 feet deep, and averaged six feet deep across the 1,000-foot-wide crown. It broke about one foot above the ground, on the top of the depth hoar layer. The avalanche ran 1,000 vertical feet, to the maximum known runout distance. It broke “several mature subalpine fir trees.”⁴⁷

TYPE	TRIGGER	R SIZE	D SIZE	BED	ASPECT	CHARACTER
HS	AE	5	3	O	NE	P

COMMENTS

Avalanche workers may have one of the highest rates of on-the-job fatalities in North America.⁴⁸ Patrollers take great care in minimizing their exposure, but also tend to accept a certain amount of risk to get the job done. Brewer was standing in a position that previous experience deemed safe. A long-standing maxim is that unusual weather creates unusual avalanches. In this case, the shallow, early-season snow turned into very weak snow. The large January storm created a deep slab over the top. When the unusual snowpack failed, the avalanche broke far wider and far higher on the ridge than in a typical snow year. The slab pulled back onto the low-angled ridgeline, farther above the (typically safe) location where the patrollers were standing.

19960203 **LOST LAKE, SOUTH OF COTTONWOOD PASS, COLORADO |**

February 3, 1996

One snowmobiler buried and killed. A large avalanche and no safety equipment meant a long search.

SITE

Cottonwood Pass is a summer road and popular winter snowmobile trail west of Buena Vista. The Pass cuts through the central Sawatch Range. There is an extensive network of groomed trails and access to meadows and bowls for off-trail riding.