

ACCIDENT AND RESCUE SUMMARY

On December 26, 2013 a group of six skiers and snowboarders left the southern boundary of the Jackson Hole Mountain Resort to access backcountry terrain. The group ascended the north ridge of Cody Peak and made the decision to ski and ride Pucker Face, a steep open slope with a cliff band outcrop that separates the upper portion from the lower portion. The first person on the slope was a 29 year old male skier. At 12:51 PM he triggered a large slab avalanche on his second or third turn. He was carried over the cliff outcrop and completely buried in the run-out zone of this active slide path. This was the first party to attempt to ski or ride Pucker Face during the 2013/14 winter season.

Due to the close proximity of the resort there were other parties in the vicinity who witnessed the slide and quickly responded. Ski guides from the resort were the first to arrive on scene. The skier was buried face down and head uphill beneath four feet of avalanche debris. He was wearing an avalanche transceiver and was quickly located. At 1:06 PM the skier was uncovered and it was determined that he was not breathing. CPR began immediately. Two doctors and ski patrollers from the resort arrived on scene and assisted in the rescue efforts, which were supported by the use of an Automated External Defibrillator (AED) and bottled oxygen. After several attempts with the AED one of the doctors on site notified the resort dispatch that the skier had a non-shockable rhythm at 1:23 PM. AT 1:32 PM the doctors made the decision to cease CPR and pronounced the skier deceased. A Teton County Search & Rescue helicopter arrived and was used to transport the skier away from the scene at 2:15 PM.

AVALANCHE DATA

The avalanche was classified as a skier triggered hard slab with destructive and relative size of three out of a scale of five (HS-AS-R3-D3). The crown depth was estimated to be two feet in the upper portion of the avalanche starting zone and stepped down another two feet in the lower portion of the starting zone. The upper shallower portion of the slab involved new wind-drifted snow that was deposited during the period of December 20 to 24. The deeper lower section of the slab involved older, faceted snow.

The avalanche released in the area above the cliff band, where the average slope angle is 43 degrees. Beneath this upper section the slide path transitions to a much steeper cliff band. The starting zone faces east and has an average elevation of 10,250 feet. This avalanche was approximately 625 feet wide, dropped 550 vertical feet and ran an approximate linear distance of 1100 feet.

WEATHER AND SNOWPACK HISTORY

At the time of this incident skies were clear. A weather station exists at the top of the resort and is located 1.1 miles northeast of the accident site. This station is at an elevation of 10,450 feet and has been the main source for wind and temperature data for the avalanche mitigation program at the JHMR for over 40 years. The average hourly air temperature at that station was 23 degrees from noon to 1 PM on December 26. Winds averaged 10 miles per hour from just north of west at 281 degrees, with gusts to 19 miles per hour from noon to 1 PM.

A four-day storm cycle began on December 20 and ended on the morning of December 24. This cycle began cold and ended warm, creating upside down conditions.

Strong westerly to northwesterly winds accompanied this snowfall, and produced dense wind slabs in exposed terrain. On the morning of December 24 skies quickly cleared as a high pressure ridge began to build over the region.

The Rendezvous Bowl Snow Study Plot is also a key component of the weather station network used by the JHMR avalanche mitigation program and the Bridger-Teton National Forest Avalanche Center for forecasting the daily avalanche hazard in the backcountry. This station is located at an elevation of 9,580 feet and is 0.8 miles east of the accident site. Daily snowfall data has been manually measured at this location since 1974.

During the period of December 20 through the morning of December 24, a total of 24 inches of new snow with 2.59 inches of moisture were measured on a 24-hour interval board at this station. The sequence of daily morning snowfall measurements were as follows:

12/20 – No new snow

12/21 – 7 inches with 0.33 inches of moisture (Density = 4.7%)

12/22 – 4 inches with 0.27 inches of moisture (Density = 6.8 %)

12/23 – 4 inches with 0.44 inches of moisture (Density = 11%)

12/24 – 9 inches with 1.5 inches of moisture (Density = 17%)

12/25 – No new snow

Winds increased during this period and began to create slab avalanches during the last two days of the storm cycle. Twenty four hour wind data averages from the summit station at the resort were as follows:

12/21 – 19 mph from the WNW, gusting to 34

12/22 - 22 mph from the NNW, gusting to 52

12/23 – 25 mph from the NW, gusting to 54

12/24 – 26 mph from the WNW, gusting to 66

Avalanche hazard mitigation efforts at the resort using explosives triggered shallow loose snow avalanches from upper elevation cliff areas on the morning of December 21. Pockets of shallow soft slab were explosively triggered from upper elevation cliff areas on the mornings of December 22 and 23. Many slab avalanches up to two feet in depth were triggered at the upper elevations of the resort during avalanche hazard reduction efforts on the morning of December 24.

There were no avalanche events observed or reported in the backcountry on December 20, 21 or 22. A slab avalanche was reported to have released naturally in the Apocalypse Couloir north of the resort in the Teton Range in the afternoon on December 23. There was significant natural avalanche activity in the backcountry on December 24. This activity included a slide that occurred in the No Shadows Couloir and continued into the adjacent lower portion of the Pucker Face slide path. With improved visibility three naturally released avalanches were observed on Christmas Day. However, it is not confirmed whether those events occurred on Christmas Day or on December 24.

The general avalanche hazard rating issued by the Bridger-Teton Avalanche Center for the upper elevations of the Teton Range on December 26 was moderate. The General Avalanche Advisory section of the forecast stated:

“At the mid and upper elevations, backcountry travelers could trigger recently developed wind slabs up to 30 inches deep in steep, wind loaded terrain. Faceted snow persists throughout the snowpack and failure could also occur on these deeper layers with slab depths up to four feet. If skies are mostly clear in the afternoon, these slides may become more susceptible to failure on sunlit aspects. Moderate hazard is not a green light. While the likelihood of triggering these slides is decreasing, the consequences remain high. Evaluate the snow and terrain carefully and identify features of concern.” Additional information was provided in the Avalanche Problem section of the forecast.



