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Avalanche Accident Report

January 16, 2016 Avalanche Accident on Skyscraper Mountain, Talkeetna Mountains, Alaska

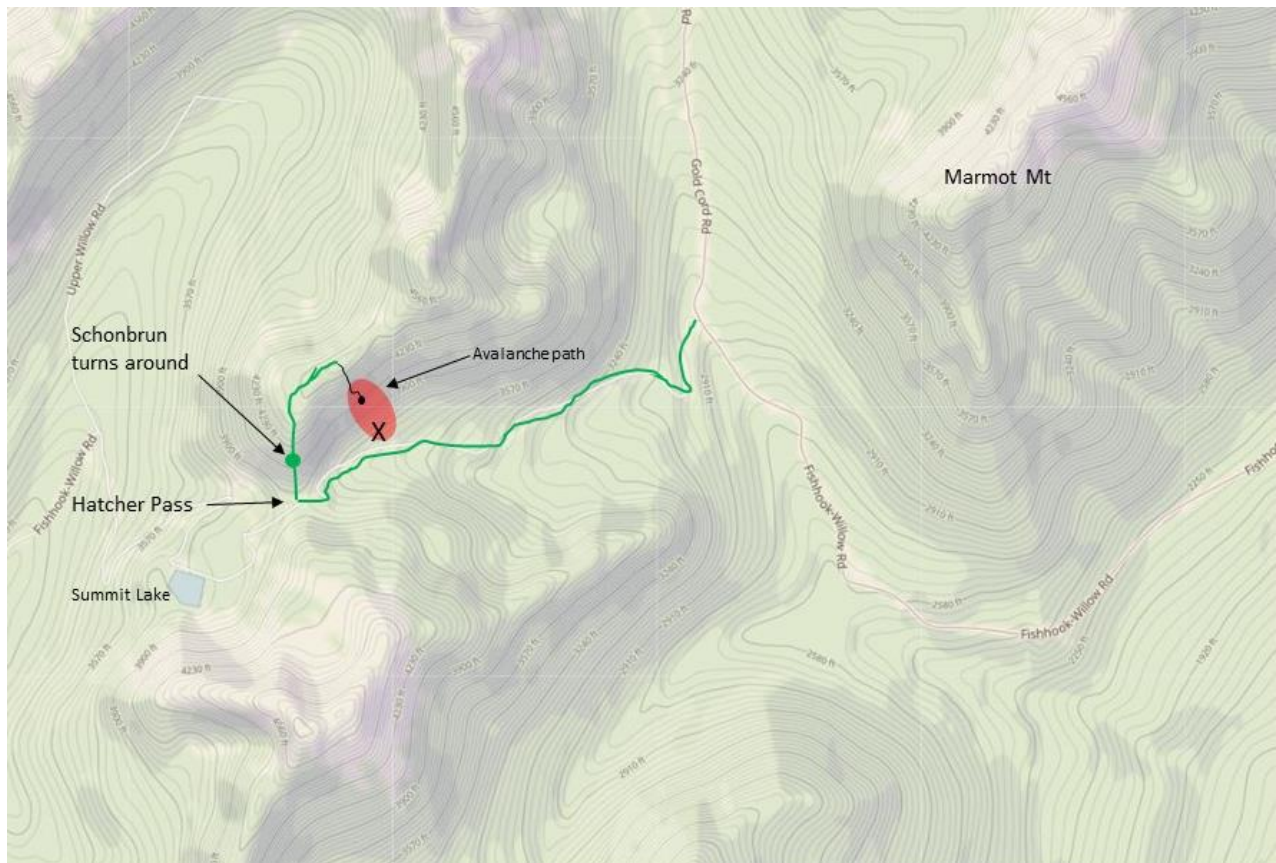


Figure 1- Accident site marked with red dot, trigger point black dot, burial as "X",

Human triggered avalanche- HS-AR-D2.5R2-O
Skyscraper Mountain
SSE aspect (160°), cross-loaded slope and features
Triggered at 4200'
Slope angle at crown = 43°
Estimated size: 6-8" deep consistent across crown X 120' wide X 600' run
Debris pile 12' deep X 185' wide, victim buried 7.5' deep

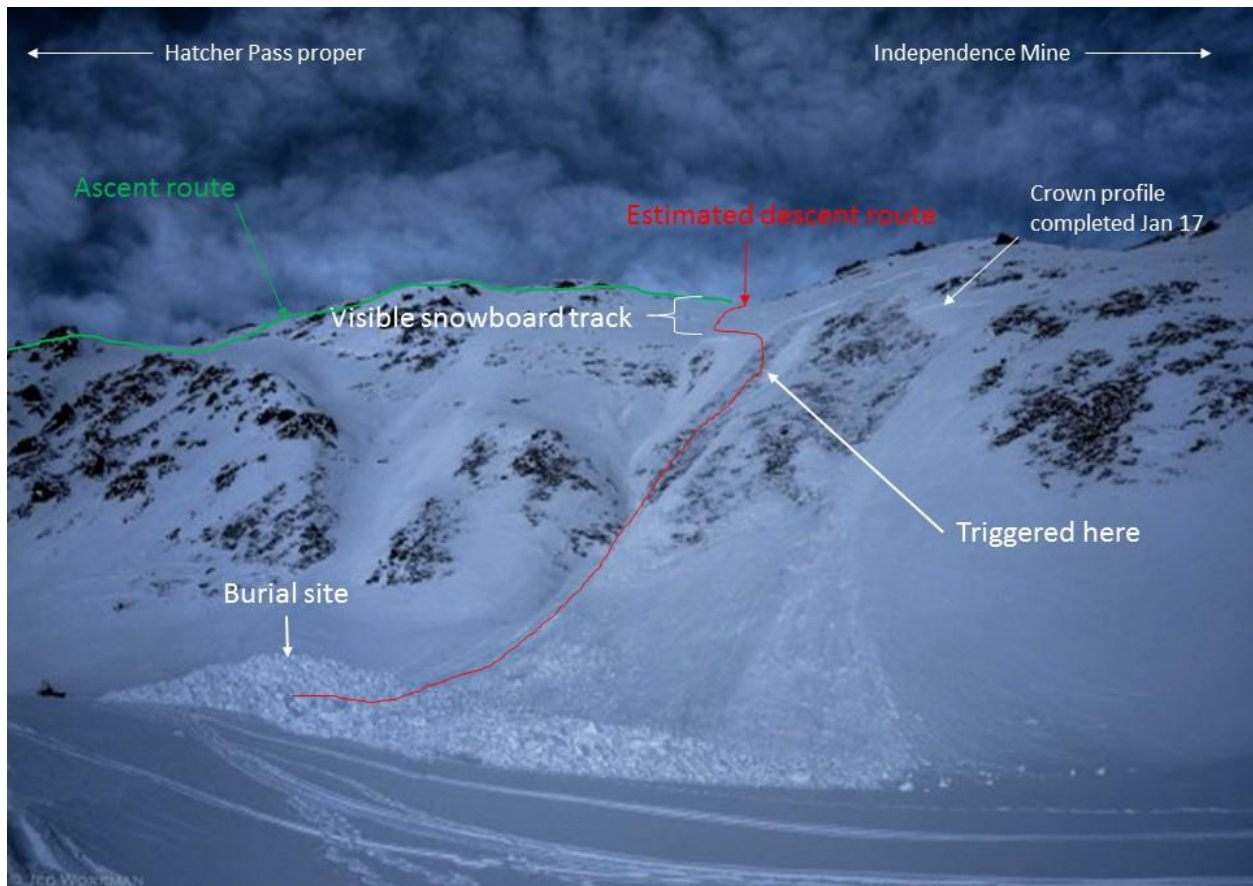


Figure 2 -Skyscraper Mountain, HS-AR-D2.5R2-0

HATCHER PASS AVALANCHE CENTER AVALANCHE ADVISORY JAN 16

BOTTOM LINE



Moderate Avalanche Hazard

MODERATE AVALANCHE HAZARD at mid (2500'-3500') to upper (3500'+) elevations on leeward aspects, northeast to west for **PERSISTENT SLABS**. Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern. Human triggered avalanches possible, natural avalanches unlikely. Small avalanches in specific areas; or large avalanches in isolated areas.

Use caution and practice safe travel protocol on steep slopes and in the runnout of steep slopes, 35° and steeper, around wind loaded pillows, leeward and cross-loaded features and ridges where triggering a slab 1 to 3 feet deep may be possible in isolated locations.



Low Avalanche Hazard

LOW DOES NOT MEAN NO HAZARD. LOW AVALANCHE HAZARD at low elevations (below 2500') **and out of the runnout of significant avalanche hazards from mid and upper elevations.** Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features. Use extra caution around wind loaded terrain traps.

AVALANCHE PROBLEM 1



Avalanche activity has settled down substantially since the last avalanche cycle ending January 6th, and the snowpack has improved over time. Hard slabs over weaker snow still exist in many locations, although the continuity of this poor structure is highly variable. This means that in isolated locations you may be able to find poor structure that will be stubborn to react in stability tests, but may be possible to human trigger.

Avalanches of this type will likely be smaller in width and mostly limited to pockets of wind loaded snow, and up to 3+ feet deep. Expect this problem on Northeast to West aspects, near wind loaded ridges, gully sidewalls and cross loaded features, at mid to upper elevations, on slopes 35° and steeper.

One factor that is playing to our advantage is the thickness of these slabs. In many places, the slabs are 3+ feet deep, and transferring your weight to weak layers at this depth and triggering an avalanche will be difficult. The thickness of these slabs will taper towards the edges of the wind-loads and be weaker around buried and exposed rocks. In these very specific locations, it may be possible to trigger the larger slab that rests above you, below you, or adjacent to you.

While the likelihood of triggering an avalanche is not high, the consequence is high. If you travel into the backcountry this weekend, use safe travel protocol to mitigate the hazard, especially on these wind loaded features and areas.

pst jan 15 2016 from HPAC on Vimeo.

The weak layer in this video is a thin layer of rounds faceting above the December rain crust. While most stability tests show good stability and poor propagation potential, this video shows poor structure with good propagation potential that may be capable of producing a human triggered avalanche in just the right spot. [PIT PROFILE HERE](#)

AVALANCHE PROBLEM 2



Large cornices exist at upper elevation ridgelines. Give these hazards a wide berth. Approach ridgelines with care to avoid collapsing large, overhanging cornice features. If you are around cornices, be aware that people may be below you and triggering a large cornice could have high consequences.

EVENTS

Warren Carlyle, 24 years old, was accompanied by Jay Schonbrun, 28 years old, on an outing in Hatcher Pass on January 16, 2016. The two were college friends. Neither person had any formal avalanche training and were not carrying any avalanche rescue equipment or avalanche transceivers.

Both traveled by snowshoe, but only Carlyle had a snowboard. Schonbrun was not planning on traveling into avalanche terrain or anything steep. He knew mountains were dangerous and he did not plan on pushing these limits.

According to Schonbrun, Carlyle had a different plan than him. He was looking to ride his snowboard. Schonbrun assumed this meant on the established road or in terrain of little consequence. The two made a plan to head up to Hatcher Pass proper on the winter road.

Along the way it appears that Carlyle was looking to ride some of the south facing portions of Skyscraper peak, which was more that Schonbrun had planned on. Once they made it to the true Hatcher's Pass, Carlyle and Schonbrun climbed the ridge together, leading to Skyscraper peak. Schonbrun was game to go as far as he felt comfortable. Along the ridge Schonbrun decided he should turn around, at which point they developed a new plan where Carlyle would continue to the top and find a descent route that would bring

him back to the winter road. Schonbrun would descend via the winter road, and look to meet back up with Carlyle.

Schonbrun had already pushed his limits and the descent was slippery and slightly out of control, however he made it back to the Pass safely. He then descended their ascent route down the winter road, looking up on the mountain side for Carlyle. To Schonbrun's surprise he actually could see Carlyle up on the ridge and waved. Communication was fruitless, as they were separated by 800' of mountain side.

Carlyle put his snowboard on and began descending in Schonbrun's general direction. Schonbrun watched as it appeared that Carlyle stopped above some rocks and had to adjust his descent route. Carlyle made a hard rider's left traverse above the rocks to a smooth, rock-free snow slope. He began descending again, made approximately 2-3 turns and triggered a large avalanche that initiated approximately 100' above him.

Schonbrun could see that there was a large terrain trap/drainage running vertically that Carlyle was getting swept into. Schonbrun was able to see Carlyle until he disappeared behind a small hill obscuring Schonbrun's view. The terrain trap gave Schonbrun a likely trajectory for Carlyle and an estimated burial point. Schonbrun immediately ran up to the debris pile looking for Carlyle, but he was not visible.

There were many other people recreating in this general location on this day and at least one person saw the avalanche happen. People began heading over to help. One person made a cell phone call to 911. Many of the first responders had avalanche rescue gear and a group formed a probe line. At some point there was a probe strike and digging began.

At 2:27pm Bernard Federspiel, caretaker at the Independence Mine State Historic Park, was contacted through a resource management decision passed down through the emergency response system. Federspiel asked John Sykes, who was at Independence Mine teaching an Alaska Avalanche School class, to assist him. The two snow machined up to the site and were assisting with the rescue by 2:40pm.

Sykes realized that the initial responder's probe strike was inaccurate and began spot probing on his own. He got a probe strike and the group refocused their efforts digging there. Sykes used his experience as an avalanche educator and his technical avalanche rescue skills to guide the group through an efficient digging process.

Carlyle's legs and snowboard were first uncovered, and then the rest of him was dug out. His head was significantly deeper than his feet. Digging out Carlyle took some time even though there were at least 12-15 people helping. He was buried 7.5' deep.

With so many people involved and varying skills and skill levels, there is some discrepancy as to whether Carlyle had any signs of life once dug up, he had now been buried for approximately 1 hour 15 minutes. The group moved Carlyle to a sled attached to a snow machine. Two nurses that were bystanders got in as well as Sykes. They began CPR as they were transporting down the hill in the sled by snow machine.

Flight for life arrived in the parking lot at Independence Mine as well as an ambulance. Carlyle was handed over to higher level care and soon announced deceased.



Figure 3 - Avg. crown height 6-8", !F/F facets weak layer (large grain size difference)/ F+ facets bed surface



Figure 4 - Left debris pile is old natural avalanche from Jan 2. Right debris pile is the Jan 16 accident site.



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Figure 5 - Large debris pile, ~12 feet deep



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Figure 6 - Hard slab chunks, P hardness, up to 3 feet thick. This avalanche had a consistent crown height of 6-8" thick, but pulled out a much thicker wind loaded/deposited slab. Classic persistent slab triggered at shallow point.

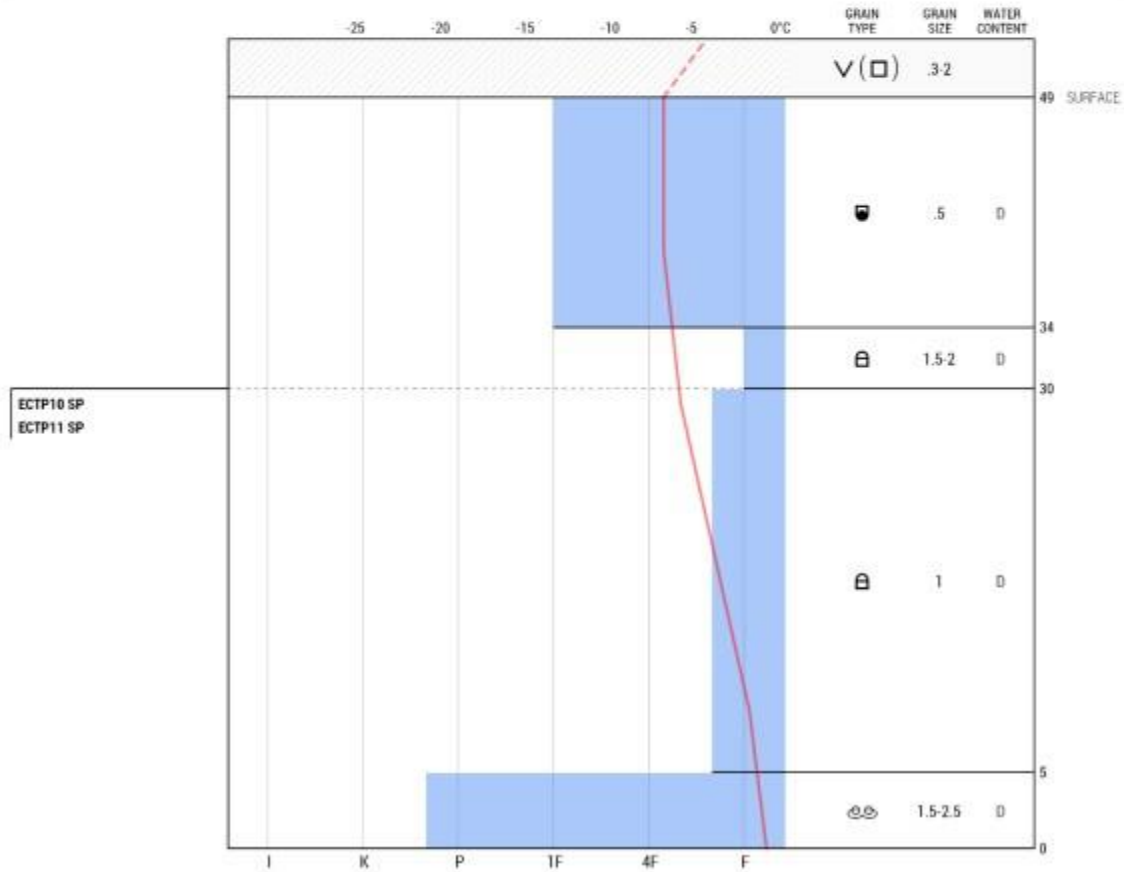
Avanet SNOW PROFILE

Organization: Hatcher Pass Avalanche Center

Location: Skyscraper Peak, Hatcher Pass Date: 2016-01-17 12:00 pm Snowpit depth: 49 cm

Lat/Lng: 61.77396, -149.30710 Observer: Jed Workman/Allie Barker Snowpack depth: 49 cm

Elevation: 4,150 ft	Wind: Calm	Surface snow= SH 0.5-2.0mm, NSF= 0.3-0.5
Slope: 43°	Blowing snow: None	
Aspect: 160° SSE	Precipitation: No Precipitation	
Air temp.: -4.5°C	Foot Pen. (PF): --	
Sky: ☁ Scattered	Ski Pen. (PS): --	



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Figure 7 - Crown profile



Figure 8 - Weak layer

[JAN 16 2016 AVY ACCIDENT](#) from [HPAC](#) on [Vimeo](#).