

## **Butch Mountain avalanche January 29<sup>th</sup> 2011**

### **Synopsis**

Four skiers triggered an avalanche on Butch mountain that broke above them as they were ascending on skins. All four were caught and carried through trees, one was buried completely, two partially. The avalanche was approximately 300' wide, 1-3' deep, running about 800 vertical feet. It broke on a WNW facing mid-slope convexity where slope angles increased from around 30 degrees (location of skiers) to angles approaching 40 degrees at the crown. This avalanche resulted in serious injuries to 3 of the 4 skiers and killed 2 dogs. All 4 skiers were rescued by an extensive interagency effort.

SS-AS-R2-D2-O

### **Accident Summary**

On the morning of Saturday, January 29<sup>th</sup>, 4 skiers with 2 dogs departed from their vehicles at the Summit Lake Lodge. They skinned up towards the Northwest facing slope of the mountain north of Butcher creek, marked on USGS maps as "Butch". The skiers said that they had spent many other days skiing in this area and that it was familiar terrain. They had read the avalanche advisory issued for the Summit area that day.

At one steep point partway up the mountain they planned to go right but found hard surface conditions that made travel difficult. They decided to traverse across to get to the side of the wide open slope. No signs of instability were heard or felt on the way up.

The group made a conscious decision to stay spread apart while ascending. At one point they gathered at the flank of the exposed slope to discuss their plans. They planned to take a break for lunch near a cluster of trees above them. Just when the group started to move again they felt a sudden collapse and the snow they were on started to avalanche. The top of the slab that released was well above the highest member of the party.

Skier A took the shortest ride, possibly due to the deployment of an avalanche airbag. He was partially buried and shoved against a tree. When the snow stopped moving he was pinned against the tree in a position that made breathing very difficult. With one free arm he dug himself out and freed himself. He lost his skis and had few obvious injuries, but later found serious internal injuries including a ruptured kidney. After digging himself out he went to the aid of the other skiers. He performed a beacon search with a BCA Tracker 2 and dug out skier B, who was completely buried.

Skier B tried to ski off the slab, but found it difficult to do so with his skins and climbing posts engaged. He fell and continued to be swept downhill, losing both skis in the process. His releasable Dynafit bindings (in locked tour mode) were ripped off his boots, causing damage to the toe interface on his boots. He became submerged a couple of times and impacted trees on the way down, hitting his head and shoulder with significant force. When the snow stopped moving he was buried up to his neck briefly before another wave of snow fully buried him. He was buried upright, in a standing position, facing downhill. The second wave of snow "rolled

over and left an air pocket in front of his face.”

The burial “felt like only 5 minutes but was probably closer to 20 minutes.” He may have blacked out while buried. Skier A came in with a beacon search, quickly uncovering skier B’s head about 2 feet below the surface. The rest of the extrication took some time to completely free him and when he was finally out he was shivering uncontrollably from the cold. He put on his insulating clothes and drank some hot tea to fight off hypothermia.

Skier C was not buried. His skis with releasable bindings did not release. One ski broke in half. He had a broken leg, 5 broken ribs, and a partially collapsed lung. The leg injury is probably a direct result of his ski not releasing.

Skier D was partially buried. His telemark skis did not release and his legs were twisted and severely strained. He suffered head contusions, black eyes, and some knee injuries. Both his dogs were buried, presumed dead, and not recovered.

## **Rescue**

One of the skiers was able to get an early call by cell phone to 911. Initial response was coordinated through Alaska State Trooper dispatch. The Troopers took command of the rescue and called the Alaska Mountain Rescue Group to gather resources. The State Trooper A-star Helo 1 deployed immediately, flying to Girdwood first to pick up an avalanche rescue team of Alyeska Resort Snow Safety employees. Two Lifemed helicopters also responded to the staging area at Summit Lake. Other resources involved were: Moose Pass fire department, U.S. Forest Service, and Anchorage Nordic Ski Patrol. The initial assessment of residual avalanche hazard and landing zones would not allow for a quick helicopter rescue. The Troopers called the Rescue Coordination Center to request a helicopter with hoist capabilities. At the same time a ground rescue team worked up from the bottom on skis to try to get to the site from safer ground below. The Air National Guard arrived with a Pavehawk helicopter and Pararescue personnel. All 4 skiers were hoisted to the helicopter. One subject was dropped at the parking lot and the 3 others were flown direct to Providence hospital in Anchorage.

## **Weather**

The Summit Creek SNOTEL site is used for snowfall data and is ~1000’ vertical lower and 3 miles SW of the crown. The Fresno Ridge FCNFAIC weather station is used for temperature and wind data and is ~1000’ vertical higher and 3 miles NW of the crown.

On November 22-24th 0.3” of rain fell on top of 16” of snow from earlier that month. This precipitation event switched to snow on the 25th and deposited 6” of new snow. December through early January put down 20” of intermittent snow with occasional wind. No snow fell from January 6th till the 18th. Between January 21st and 25th 9” of snow fell with strong northerly winds. There was no new snow between January 26th and the accident on the 29th. In this three day period prior to the avalanche winds were generally light, skies partly to mostly cloudy and temperatures were between 15F to 20F. On the 29th, the day of the accident, skies

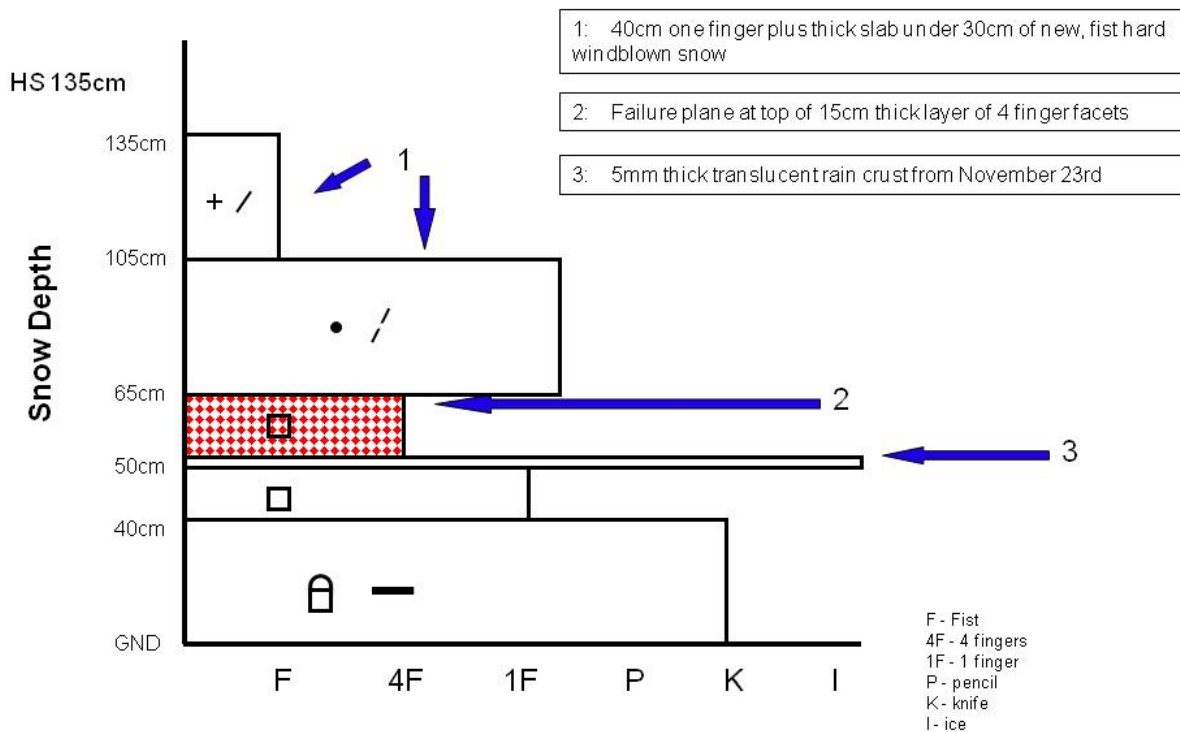
were overcast with a few snow flurries and winds increased to 12-17mph gusting to 30mph from the NNE. Air temperature near the time of the accident was 25F.

### Snowpack

The total depth of the snowpack at the crown was 135 cm deep. 18cm of new, fist hard windblown snow was overlying 40 cm of old, pencil hard small rounding facets. This was all on top of a 15 cm thick layer of 4 finger facets, where the avalanche broke down to. These facets formed above the translucent rain crust from late November, which acted as an excellent bed surface for this and many other avalanches. Stability tests in the area had recently shown a trend of low strength and high energy failures at both layers of facets around the rain crust. Collapses were noted by several observers at similar elevations on days preceding the event. There was one small midslope avalanche reported in a similar area, otherwise there were no other bullseye clues.



**Butch Mtn Crown Profile: 1-29-2011**  
**WNW facing, 39 deg, 2,600'**



## **Summit Avalanche Advisory 1-29-11**

Good morning backcountry travelers, this is Alex McLain with the Chugach National Forest Avalanche Information Center on Saturday January 29th at 7 am. This will serve as a general backcountry avalanche advisory issued for Summit Lake as the core advisory area (this advisory does not apply to highways, railroads, or operating ski areas).

**Based on recent observations and data, natural avalanches are unlikely; human triggered avalanches are possible. Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.**

The primary concern today will be new snow on top of layers of ice and facets. Areas of higher snowfall amounts and where windloading has occurred have a higher probability of sliding today. The snowpack is variable out there and the slopes were reactive to skiers and riders in steeper terrain above 35 degrees on Friday. The inconsistency in the snowpack went from staying on top to falling to your waist through the layers in some areas. One small mid slope natural avalanche had happened north of Tenderfoot Ridge (Ski Hill) on steep slopes but this was not widespread.

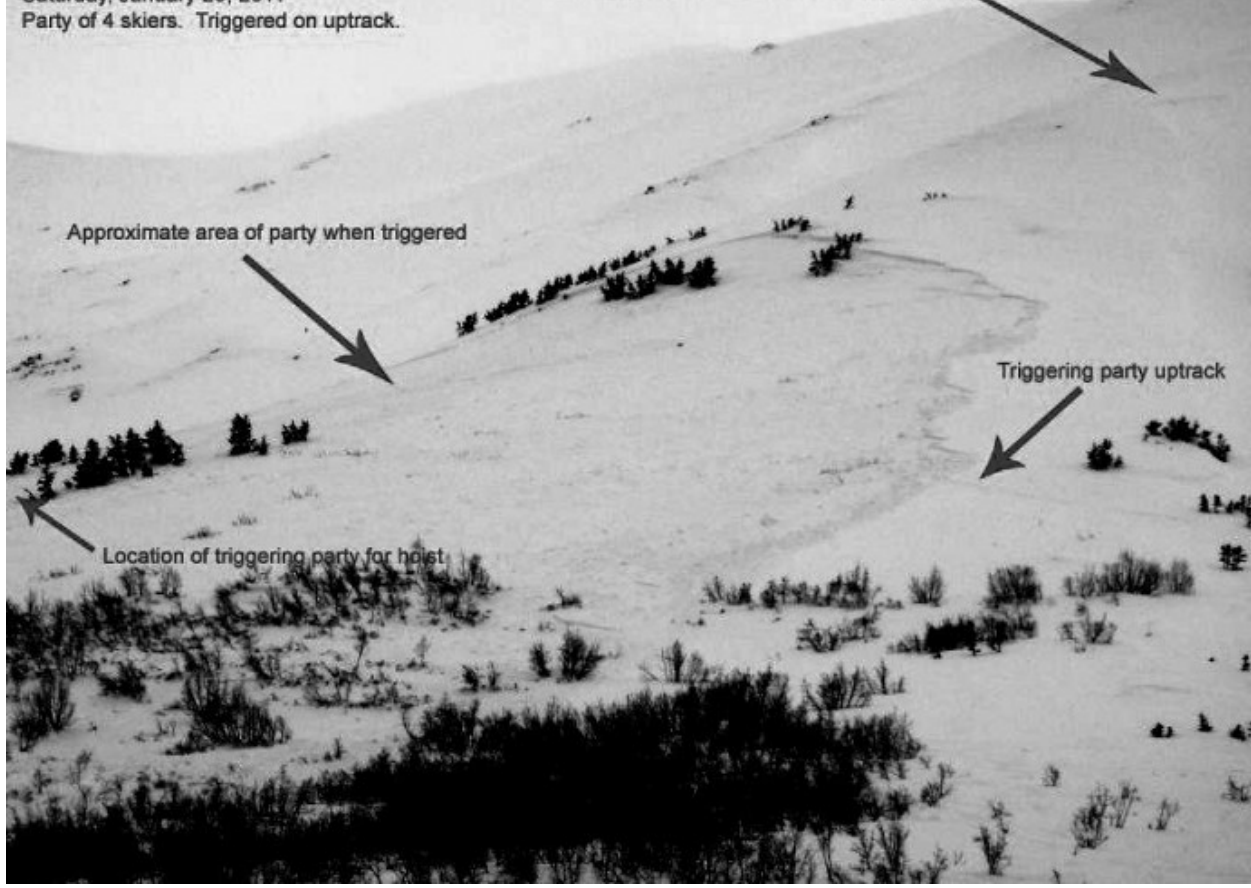
Some good observations from other skiers in the area demonstrate the inconsistency in the snow pack. One long time experienced skier up at Summit Lake left an observation with me yesterday describing several large whumphs and collapsing of the snowpack on a 35 degree slope. He then left the area immediately and returned safely. He was one mile north of our location where we did not see that kind of collapsing. (Thanks, Pete for that observation. Good decision making!)

Incidents outside of the Summit Area came from a skier at Turnagain pass who was on a 45 degree slope and triggered an avalanche on Friday that was 2 feet deep and 150' wide and ran 1000'. He was not caught in the slide. On Monday 1/24 a snowmachiner at Lost Lake triggered a small slide north east of the lake on the Primrose side. The slide was 2 feet deep and 30' wide and ran approximately 50'. This was on a 80' long 30-40 degree slope. He was partially buried with part of his helmet and his hand sticking out of the snow. His partner dug him out in 15 minutes. His sled was also buried in the slide. Instabilities were noted prior to the slide, but it just goes to show you that even small slides can create a real hazard. Glad to hear everyone is making it out safe but the more we test our luck the higher the likelihood that someone's luck will run out.

Bottom line is there are slopes still proving to be reactive to human triggers. The possibility increases as you get on steeper terrain even if that terrain seems small. Recreationists out there this weekend who don't take this to heart and press their luck could very easily find trouble. And finally, more snow/rain is forecasted to make its way into the area in the upcoming week, increasing the avalanche danger.

Summit Lake Area Avalanche - "Butch"  
Saturday, January 29, 2011  
Party of 4 skiers. Triggered on uptrack.

Crown of natural that occurred during hoist operation



Approximate area of party when triggered

Location of triggering party for hoist

Triggering party uptrack





### **Discussion**

This avalanche was a perfect example of the type of snow conditions that persisted in the 2010/11 winter. Shallow snow, well developed weak layers above and below an ice crust, and the possibility of triggering avalanches long after storms. The Summit region is always a shallower snowpack than Turnagain Pass, but this year it was especially continental in character. On many occasions it only took small amounts of new snow to cause avalanche reactivity, and the hazard lingered longer than normal.

Report by Jon Gellings, Wendy Wagner, Alex Mclain, and Kevin Wright with help from the Alaska Mountain Rescue Group.

Direct any questions to Chugach National Forest Avalanche Information Center. Girdwood  
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