Hatcher Pass Avalanche Center
POB 1223
Chickaloon, AK 99674
907-746-4566
info@hatcherpassavalanchecenter.org

Avalanche Accident Report

January 2, 2016 Avalanche Accident in Grubstake Gulch, Talkeetna Mountains, Alaska

On Saturday, January 2, 2016 a snowmachine rider named Dashiell Erickson, 35, was caught and killed in an avalanche in Grubstake Gulch. This accident occurred on Alaska State land outside of the Hatcher Pass Management Area, and outside of the HPAC forecast area.

Dashiell Erickson, Joe Simpson and Todd Harris all had at least 20 years of experience traveling in the backcountry on snow machines. Simpson nor Harris had any formal avalanche education, however, Erickson had completed two avalanche classes in Alaska, one in 2000 and another in 2010. They carried all the appropriate safety equipment. They knew each other well and had many years of experience in the backcountry together as a team.

The wind was strong on this day and was visibly moving snow. Winds had been strong for at least a week prior to this accident and had formed dangerous slabs at mid and upper elevations. Cloud cover made visibility poor.

HPAC posted an avalanche advisory on this day, however the accident site was outside of the forecast area. The "bottom line" of the forecast for this day is as follows:

BOTTOM LINE

Considerable Avalanche Hazard

CONSIDERABLE AVALANCHE HAZARD at upper elevations (3500+) for **WIND SLABS** 6" to up to a foot thick at upper elevations on leeward aspects, generally North to West, and on slopes 35° and steeper. Sensitivity will be touchy today with human triggered wind slab avalanches likely, but quickly moving to stubborn tomorrow as these slabs stabilize. The distribution

of soft, new wind slabs will be patchy and pocketed and the size of these avalanches will be on the small to medium side. Careful snowpack evaluation, cautious route finding, and conservative decision-making are essential.

Moderate Avalanche Hazard

MODERATE AVALANCHE HAZARD at mid (2500'-3500') to upper (3500'+) elevations **for PERSISTENT SLABS AND CORNICE HAZARDS**. 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.

Avoid wind loaded and cross loaded areas, generally North to West aspects or anywhere where snow has been wind loaded and/or where winds have built stiff, hard slabs this week. Be especially careful in and around gaps and passes. Today's avalanche hazard has low probability, but HIGH CONSEQUENCE.

If you choose to travel in the backcountry this weekend, choose scoured vs. loaded slopes, stay out of the runnout of loaded slopes and features, and avoid any heavily wind loaded areas.

Good skiing/riding conditions exist in small, patchy zones at mid to lower elevations where some wind protection exists. Poor skiing/riding conditions and increased avalanche hazard exists at upper elevations where almost every snow particle was hammered by the wind.

Low Avalanche Hazard

LOW AVALANCHE HAZARD at low elevations (below 2500') and out of the runnout of significant 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.

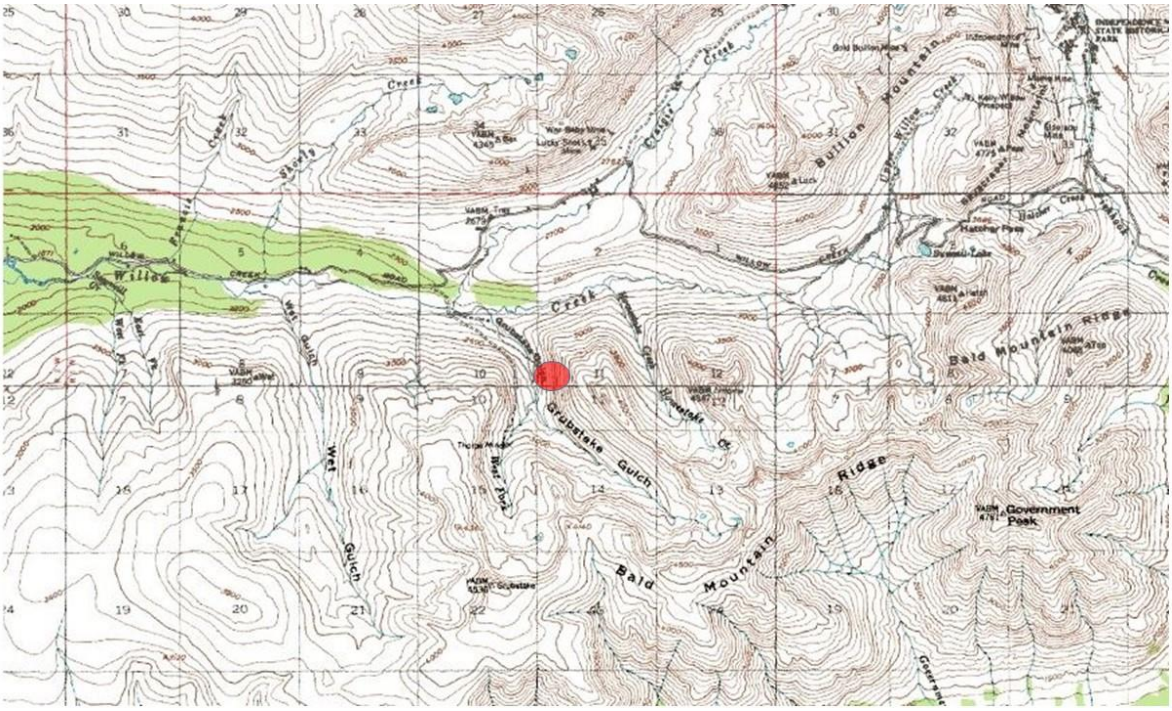

Figure 1 - Location of avalanche accident marked by red dot

Erickson, Simpson and Harris met up at the Fishhook Lot at Hatcher Pass mid-morning. A ranger informed one of them before they left the lot, that there was a recent natural avalanche on Skyscraper mountain that most likely occurred that day. He also told Harris about another recent avalanche on Marmot Mountain.

Harris had checked the most recent HPAC advisory, the CNFAIC advisory and some social media sites to inform him of the avalanche hazard level and avalanche problems for the day. All three agreed to stay out of serious avalanche terrain and to stay in mellow terrain where avalanches would not be a problem.

Erickson was wearing an avalanche transceiver and an airbag that contained a shovel and a probe. Simpson and Harris were also wearing avalanche transceivers, however they carried their shovel and probe on their machine and not on their persons.

They left the Fishhook Lot at approximately 11:00AM. The riders traveled together up the winter road to Hatcher Pass proper, then down to the Willow side of the pass. They descended past the Lucky Shot Mine to an area at approximately 2000' in elevation. This area was free of avalanche hazards and they spent some time here. This area became uninteresting after a while and they decided to head up into Grubstake Gulch where there is more interesting terrain and where there were no visible tracks from others.

They traveled together, approximately 1/8 mile apart at the most, keeping each other in site most of the time. They paused on a shelf above the gulch to get a view of where they were headed. They descended into the gulch crossing to the east side of the creek. At this point the team was fairly close together and crossed underneath a large west facing slope, following the creek shelf up the drainage. Once they past the slope, approximately 1200', they stopped. Simpson reported that he had a bad feeling, something akin to a sixth sense. They all agreed that the snow conditions were not enjoyable due to the stiffness of the snow. They all turned around and headed back the way they came in.

The decision to turn around was somewhat abrupt, and as a result Harris, who usually takes up the rear and acts as the sweeper, decided to go first. Erickson was last. They crossed under the slope again on their way out, but this time Simpson noticed something odd, a swirl of snow, like a dust devil, and knew something was not right. He turned around and headed back to find Erickson since he could not see him. Immediately he recognized that an avalanche had occurred and he could see Erickson's snowmachine ski in the creek bottom.

There was a bit of confusion for Simpson and Harris as they were completely shocked that an avalanche had occurred. It took some time for them to get into rescue mode. Simpson went down to the snowmachine and put his foot in the muffler to shut down the machine. Once it was off, the gravity of the situation had sunk in and he turned his transceiver to receive. He immediately got a signal 6 meters away. At some point they got a probe out, but it had a twisted line inside it and it took some time for them to resolve this problem. Harris joined Simpson and they pinpointed Erickson's location. The closest read they got was 1.3 meters. They got a positive probe strike.

Simpson and Harris dug out Erickson, but the snow was like concrete and it took time and was hard work. Once they had him unburied they built a small shelf in the snow to conduct CPR. Erickson was unresponsive, was not breathing and had no pulse. Harris estimated it took 6-8 minutes to dig Erickson out. Simpson estimated it took 12-15 minutes from the time he realized there was an avalanche to the time they uncovered Erickson's face.

They took turns conducting CPR for about 40 minutes before they decided that Erickson was deceased. It was getting dark, and they did not think they could lift Erickson from the creek bottom alone. They decided to leave Erickson there and head back to Hatcher Pass for help. There was no cell phone reception in this area.

Simpson and Harris made it back to Hatcher Pass and Harris headed up to the upper parking lot where he knew he could get cell reception. He successfully made a call to 911. A trooper was dispatched to HP to meet Simpson and

Harris. When the Trooper arrived they all decided that a recovery effort at night was a poor choice given the lack of light and the harsh windy weather. They planned a recovery effort the next day that would include State Park rangers.

On January 3, 2016 members of the Alaska State Parks and Alaska Mountain Rescue Group recovered Erickson's body.

On January 4, 2016 two avalanche specialists from HPAC and one from CNFAIC investigated the avalanche accident site. Strong winds over a ten-day period prior to this avalanche contributed to instabilities in the area. At least two other recent, large, natural avalanches were observed in the Grubstake Gulch area by these avalanche specialists.

Due to objective avalanche hazards still present at the site, including recently loaded slopes, we were not able to investigate the crown of the avalanche, however, we were able to conduct a test pit nearby. This test slope was located just adjacent to the burial site, on a West facing aspect, at about 2600', on a 20º slope. Old shooting cracks were present on the slope, and are visible in the background of this video.

Video link: https://youtu.be/U8CGeHe_a9w

Results from this test highlight the propagation potential and force necessary to trigger recent wind slab avalanches in this area. In this test, wind slab failed on weaker, buried facets over a melt-freeze crust bed surface. It is highly likely that the wind slabs were thicker, heavier and more reactive where the actual avalanche occurred. The terrain trap compounded the consequences of the avalanche. The depth of the debris in the terrain trap is difficult to assess, but best guesses are 6-15 feet deep. Initial reports estimated that Erickson was buried 6 feet deep.

Figure 2 - Pit profile adjacent to avalanche slope

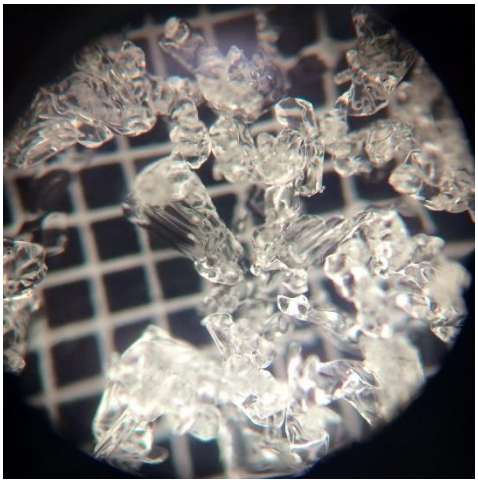

Figure 3 - Weak layer

This avalanche was large, ~1000 feet wide X ~1000 feet long, ~1-2 feet deep, and capable of not just burying and injuring a person, but possibly destroying or seriously damaging a vehicle. The avalanche slope was likely 35°- 45°, west facing, and recently loaded. The avalanche crown is located at approximately 3500' and ran to approximately 2500'. Surviving this avalanche was unlikely.

How this avalanche was triggered will never be known for sure. However, the clues and best hypothesis point towards the victim triggering the avalanche while traveling under/on the slope.

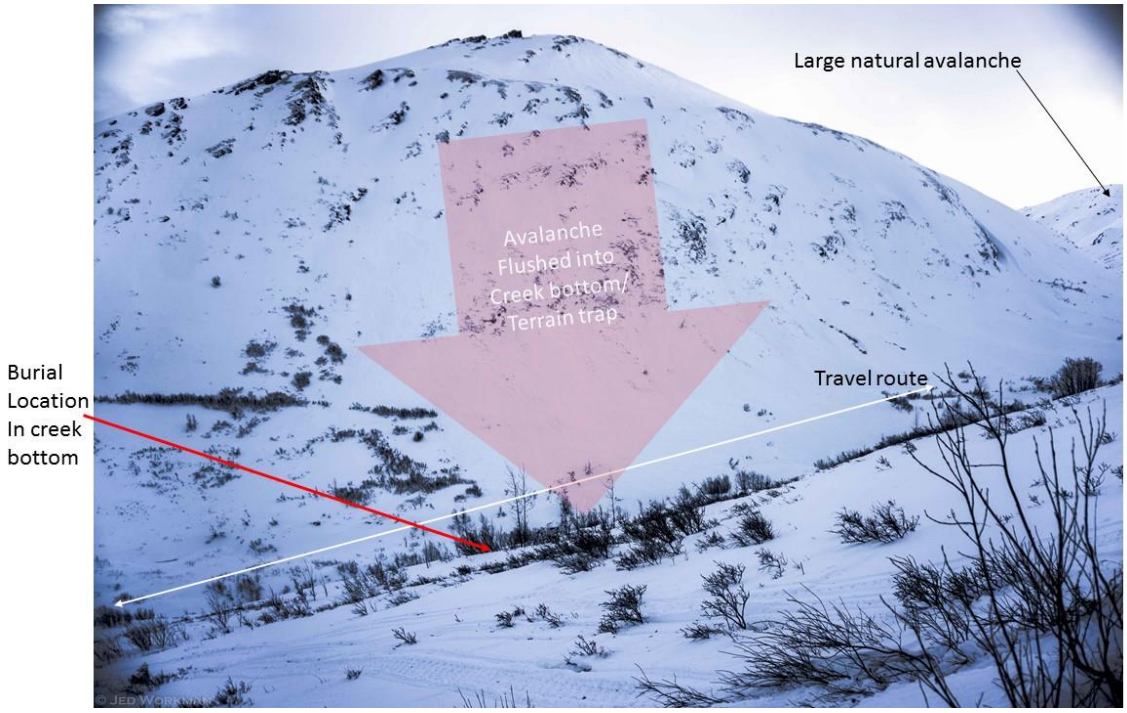

Figure 4 - Overview of accident site

Figure 5 - zoomed picture of crown highlighted

Figure 6 - Overview picture of avalanche slope and debris pile, including highlighted crown

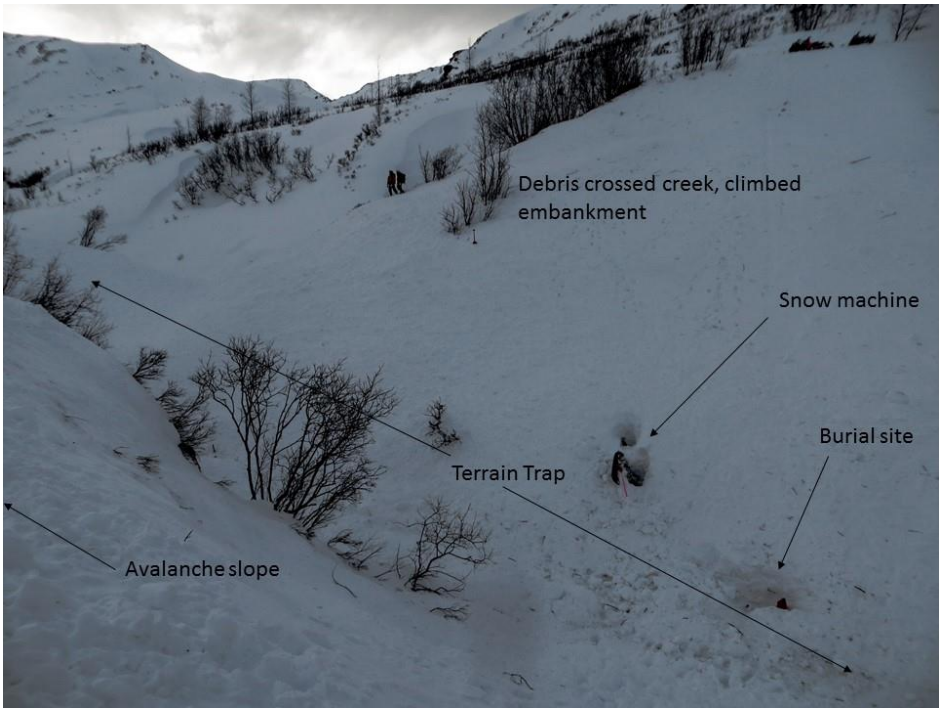

Figure 7 - Terrain trap, creek bottom, with Erickson's snowmachine partially buried and burial site identified