V Max Avalanche – Accident Report
Cooper Landing, Alaska

**Location:** ½ mile East of V Max hill, Cooper Landing, Alaska
Lat/Lon: 60.35020° N, -149.66812° W

**Date:** 1-28-2017, **Time:** ~1400

**Report by:** Chugach National Forest Avalanche Center Staff
**Contact:** staff@chugachavalanche.org, website: cnfaic.org

**Synopsis:**
Two snowmachiners were caught and carried in a large avalanche triggered remotely from a lower bench. Rider 1 was fully buried with just his hand breaking the surface and dug out uninjured by an unaffiliated group in the area. Rider 2 was buried approximately 8 feet deep and recovered unresponsive after 20-25 minutes. Rider 2 was flown to an area hospital where he was pronounced deceased.

**Avalanche Details:**
*Photos of avalanche and snowpack profile are at the end of this report*
Avalanche Code: HS-AMr-D3-R4-O
Trigger – Snowmachiner, remotely triggered from bench under slope
Aspect – NW
Angle – Estimated 40 degrees
Elevation - 3000'
Crown Depth – Estimated 2-8', average 4'
Width – Estimated 2,500-3,000'
Vertical Runout – Estimated 1,000-1,500'
Weak Layer – Large facets / depth hoar
Debris depth – Estimated 8-12'

**Accident Summary:**
On Saturday, January 28th, a group of two snowmachiners (Rider 1 and Rider 2) left the parking lot at the end of Snug Harbor Road around 11am. They made their way through the trees to a terrain feature commonly known as ‘V Max hill’ and descended into the main drainage below. They rode roughly ½ mile past V Max hill heading East up the drainage. At this point both snowmachiners were riding on the South side of the valley on some lower benches underneath steeper slopes connected to a ridgeline ~600’ above them. Right before the avalanche, Rider 1
was on the uppermost bench waiting for Rider 2. As Rider 2 rode up and past Rider 1, Rider 1 began to descend the upper bench slowly. Around 30 seconds later, Rider 2 rode down past Rider 1 at a very high rate of speed then veered to the right. At this moment, Rider 1 was caught from behind by the avalanche and carried down the slope with the debris roughly 200-250’. The avalanche was never seen by Rider 1 prior to being caught.

Rider 1 was buried near the top of the debris and was able to push his right arm above the surface; Rider 1 commented that he had known to try to use his arm to help create an airspace and he felt this is likely why the right arm ended up close enough to the surface to stick out. Rider 1’s face was also close enough to the surface that he was able to spit out and wipe away the snow from his face and maintain his airway. Rider 2 was caught at an unknown point below Rider 1 and buried around 8’ deep just downhill and around 100’ East of Rider 1. Rider 2 was buried head downhill, on his side in a horizontal position. Rider 2’s snowmachine was fully buried roughly 100’ below Rider 2’s burial location. Rider 1’s snowmachine was around 100’ below Rider 1’s burial location.

Rider 1 had seen the CNFAIC avalanche forecast for Turnagain Pass before the weekend and knew there was risk of triggering an avalanche in this zone. Both riders were in an area they felt was reasonable and were not looking to get into avalanche terrain. Both Rider 1 and 2 had avalanche transceivers on their bodies. Rider 2 had a shovel strapped to his snowmachine tunnel and was not wearing a backpack. Rider 1 was wearing a backpack with a shovel and probe inside the pack. Rider 2’s level of avalanche training is unknown. Neither Rider had an avalanche airbag. Rider 1 did not have formal avalanche training, but had done personal research/education using internet resources. Rider 2 had 2 years of mountain riding experience and Rider 1 had 8 years of experience riding snowmachines in the mountains.

**Rescue Summary:**
A group of four snowmachiners were in the drainage at the time of the avalanche. One member of this group (Rob) documented the rescue in the below narrative; first posted to social media and submitted to the CNFAIC by Rob (the names of individuals have been removed).

*I was riding with my son and his two friends D and J up the Snug Harbor trail into Lost Lake. I was riding doubles with J because he did not have a sled. We met Rider 1 and Rider 2 just before V Max hill because they were stuck and the boys helped them. Then my son Jackson got stuck and Rider 2 and Rider 1 helped him get his sled free. I spoke to them for a few minutes and then we were off riding again. I made it over V Max first and then my boys. We were sitting on the Seward side of V Max when Rider 1 and Rider 2 made it over. We talked to each other and told them if they got stuck again we would help them and if we were stuck to help us. They left us and we took off about 5 - 10 minutes later.*

*I was leading our group, as we were heading up the valley I looked up to the right and saw the two men riding on a slope that I would not have touched under these avalanche conditions. I thought to myself, “I hope they are careful!” I stopped to wait for my son and D who were way behind us. As I looked back D was waving his hands wildly. J and I*
raced back and D told me he just saw the avalanche bury someone and a sled, I asked him “WHERE IS [My Son]?”. D didn’t know (D’s sled was stuck) but he thought my son may have been up there with those guys. My heart sank! Just then he came riding out of the woods. I dropped J off with D because I was worried about trying to ride doubles up the avalanche.

My son and I rode our sleds up the avalanche to start the search. I first found a half-buried sled, then I saw a hand waving and I found Rider 1 buried with just his hand waving and his face showing. (I believe we found Rider 1 within 3 minutes from when the snow covered them.) He was buried so tight he couldn’t move anything except his hand. I dug him out as fast as I could so we could turn off his beacon and search for Rider 2. The snow was set up like concrete and was very heavy and difficult to dig out. My son was searching for Rider 2 the whole time but it was difficult because of both beacon’s sending a signal. It took me approx. 7 minutes to dig Rider 1 free. We got Rider 1’s beacon turned off so we could use our own beacons to locate Rider 2. My son found Rider 2’s signal about 100 feet to the east of where Rider 1 had been buried and started probing and felt his body right away. He was down deep about 8-10 feet from the surface. (Approximately 10 minutes had passed since they were buried before my son started digging.) Rider 1 came over to help us dig. We dug and dug and dug! We were so tired and desperately needed more help. I decided to jump on my sled and go get J who had another shovel. D walked up the hill to help too. We were all so EXHAUSTED it was so helpful to have more people to help us dig! It was very challenging trying to get the snow out of that deep hole but we finally made it down to Rider 2 after about 15 more min. of digging. (By this time we estimate he had been buried for 20 - 25 minutes.) I pulled his helmet off and my son started mouth-to-mouth immediately. We did chest compressions on him while he was down in the hole. He was completely purple in the face, unconscious, with no pulse. I tried to help with the mouth-to-mouth resuscitation but started to dry heave because the smell was so bad! J took over again with the breaths and I did the compressions. A man named JF showed up and helped us pull him out of the hole. A few more people showed up willing to help. We worked on Rider 2 for another 15 minutes and I decided that I needed to mark the spot with my GPS and go call for help! I raced out to the parking lot and a couple of guys gave me a ride out to get cell phone signal to call for help. I was finally able to call in the report. They told me to go back to the snug harbor parking lot and meet up with the Cooper Landing Ambulance. When I arrived they asked me a few questions and then sent me back in with 2 EMTs and one other person riding doubles. We arrived at the site just after the chopper landed. My son had continued mouth-to-mouth while JF did chest compressions for the entire 1 ½ hours we were gone. (I believe all total they did CPR for approx. 2 hours straight.) J dug out Rider 2’s sled then hiked up the avalanche looking for a cell signal to call for help. D helped Rider 1 get his sled free. Everyone there did what they could to help in the best way they knew how. They never gave up!

Once we arrived an EMT worked on Rider 2 for a few minutes until the chopper could find a stable landing zone to load Rider 2. We all helped load him on the chopper and they took off. We helped Rider 1 get his sled running and made sure he was okay and then we
all headed out. We led the group to the Rainbow lake trailhead so they could get back to the Snug Harbor parking lot. We had to go left across Cooper lake to get back to our truck and trailer. J rode Rider 2's sled out with us and we loaded it on our trailer and brought it home. This morning some of Rider 2's friends came to my house and retrieved his sled and let us know that his parents were arriving this evening.

I am so extremely proud of my son, and his friends D and J for all they did. I cannot express in words how incredibly exhausting (both mentally and physically) it is to be a part of a rescue like this! I also want to express how important it is to BE PREPARED with a shovel, probe, and beacon so you can help find someone. I do not own an Avalanche Pack (the kind you pull a cord when you are in danger and it blows up air bags around your head and upper body) but after witnessing what I did on Saturday I will be buying one for my sons and me. They can help keep you floating on top of the snow!

The VERY BEST advice I can give (and I have learned the hard way myself over the years) is to be AWARE of Avalanche conditions before you leave your home and STAY AWAY from the danger zones! Ride in the trees and valleys, it may save your life!!!

We were very honored to have been in the mountains on this day to be in the right place at the right time where God needed us to be. We are so thankful that we were able to free Rider 1 and SO SAD that we could not revive Rider 2!! My heart and prayers go out to his family and loved ones. May you Rest in Peace!!

HUMBLED!, Rob

Local law enforcement responded to the incident and a LifeMed helicopter was requested, landed near the burial site and flew Rider 2 to a Soldotna area hospital. Rider 2 was pronounced dead on arrival at the hospital.

Snowpack and Weather History:
The avalanche occurred on the second day after a two-day warm and windy storm added 16-20" of new dense snow to this area (Jan 25-26). Prior to this, on January 21st, a potent colder storm added 3-4' of lower density snow with lighter winds. Before these two storm cycles, the snowpack in the area was very thin due to a cold and dry December and early January. By mid-January the snowpack was estimated at 1-3' thick and composed of weak faceted snow and depth hoar intermixed with degrading melt-freeze crusts in the southern Kenai Mountains.

The two late January storms formed a dense hard slab around 3-4' thick on the bench where the avalanche was triggered. Under the slab was a 4" layer of weak faceted snow; Fist hard to 4-Finger chained depth hoar 3-4mm in size. Under the depth hoar was a degrading basal melt freeze layer ~10" thick. At the crown along the ridgeline, the slab was between 2 and 8' thick due to wind scouring and loading. Average depth of the crown face is estimated at 4'.

The avalanche was 2,500'-3,000' wide, nearly a mile wide including an adjacent avalanche triggered sympathetically, and ran 1,000-1,500 vertical feet. It was a hard slab avalanche that
failed in weak faceted snow and depth hoar near the base of the snowpack (HS-AMr-D3-R4-O). The weak layer is suspected to be continuous from the base of the avalanche to the crown. The slab was continuous from around 2,300’ to the crown. Below 2,300’ the slab was noticeably weaker (1 to 4 finger hardness). The continuous nature of the slab (at the elevation of the upper bench and above to the ridgeline) along with a continuous weak layer, allowed for this avalanche to be remotely triggered from below.

**Avalanche Danger:**

There is no avalanche advisory issued for this area. CNFAIC staff knew of the dangerous avalanche conditions in the Southern Kenai mountains, which sit ~20 miles to the Southwest of the CNFAIC advisory zone. A Special Avalanche Bulletin was issued on January 22nd and an Avalanche Warning was issued on January 26th for the Kenai Mountains. On Saturday, January 28th (day of accident) a cautionary statement in the special announcements of the CNFAIC advisory page stated: “The Southern Kenai Mountains, including the Lost Lake zone are expected to have dangerous avalanche conditions today. This region is out of the advisory area but received 3-5 feet of snow from last Saturday’s storm and received additional snow this week. There were several avalanches observed over the past weekend in that zone and more are possible today. Practice safe travel protocols, always carry rescue gear and please let us know what you see out there!!” Advisory link: [http://www.cnfaic.org/advisories/current.php?id=1443](http://www.cnfaic.org/advisories/current.php?id=1443)

**Media:**


http://www.ktva.com/snowmachiner-dies-avalanche-southcentral-alaska-622/

*We are very grateful to Rider 1 and the rescuers for their willingness to share this experience for others to learn from.*
Google Map of the Cooper Landing area and Avalanche Location

Sterling Highway to Homer

Seward Highway to Anchorage

Cooper Landing

Avalanche

Seward Highway to Seward

Chugach National Forest

Moose Pass

Crown Point

Primrose
View looking up at the crown from likely trigger spot on upper bench

Wider angle view looking from Landing Zone of helicopter
Zoomed view looking up at crown from upper bench

Zoomed view of crown to the looker’s left of burial locations
Another view zoomed in looking to the far left from burial locations

Crown under the cliffs from the avalanche possibly triggered sympathetically
Pit Date: 1/29/17
Avalanche Date: 1/28/17
Loc: V Max drainage
Asp: NW
Elev: 2,500’ (mid slope – adjacent to likely trigger location)
Snow depth: 145cm

110cm (43”) hard slab (Fist hard at surface transitions to Knife hard bottom half)

Weak Layer:
Top of 10cm (4”) layer depth hoar (3-4mm)

Degrading ice crusts bottom 25cm (10”)

Crack in slab on flank of avalanche

Close up of bottom of slab and crack

SLAB

Collapsed portion

Weak Layer – Chained Depth Hoar

Hard ice crusts
Flank Profile

V Max Avalanche  Kenai Mountains  Stability: H3143 PF20  Layer Notes
Wendy Wagner  Sun Jan 29 15:00 2017  Air Temperature: -8°C  35-125: Strong SLAB
Kenai  Co-ord: 60.35020N, -149.66812W  Sky Cover: BKN  25-35: Weak layer - Depth Hoar
AK  Elevation: 2500 ft  Precipitation: NO  25-35: Problematic layer
Aspect: NW  Wind: Calm
Snow Profile:

Notes: V Max Avalanche flank profile