

20210410 Alpentel Valley, Run 261, Full burial with injuries

Report by Dallas Glass

Incident Snapshot

Occurrence Time and Date: Approx: 430 pm, April 10, 2021

Rescue Time: Approx 3 hours

Lat/Lon: Approx: 47.4475, -121.4521

Location: Near Run 261/ Great Scott Bowl, Alpentel Valley, King Co., Mt Baker-Snoqualmie NF, WA

Number in Party: 3

Number Caught: 1

Number Completely Buried: 1

Duration of Burial: <5min

Number Injured: 1

Number Killed: 0

Avalanche Type: SS

Trigger: ASu

Size: R3 /D2

Start Zone Aspect: NW

Start Zone Angle: Avg 40

Start Zone Elevation: 5100-5200'

Height of Crown Face: Average 12"

Width of Fracture: 150'

Vertical Fall: 300'

Slab Characteristics: 1F-1F+, DF 1.5mm

Weak Layer Characteristics: 4F-, FCsf, 1mm

Bed Surface Characteristics: 1F, DF, 1.5mm

Burial involved a terrain trap: No, the burial did not include a terrain trap, but the avalanche ran through trees and over a cliff.

Number of people that crossed start zone before avalanche: 1

Avalanche occurred during: Descent: skiing

Location of group in relation to start zone during avalanche: Upper start zone

Avalanche Safety Gear Carried: By some members of the party. The victim carried beacon, shovel, and probe.

Avalanche Training and Experience at Activity: One member of the team had formal avalanche training. The group involved very experienced skiers with varying degrees of familiarity with the terrain.

Signs of Instability Noted by Group: Wind loading and new snow

Extent of Injuries: Left Shoulder: fractured humerus and clavicle. Right knee: torn ACL.

NWAC Forecast Zone: Snoqualmie Pass

Avalanche Danger Rating (Above, Near or Below Tree-line): Considerable, Considerable, Moderate

Avalanche and Accident Summary

On the afternoon of Saturday, April 10, 2021, a group of three skiers loaded Chair 2 at Alpentel Ski area to access terrain beyond the ski area boundary. They had been traveling inbounds in the Alpentel back bowls for a large part of the day. Upon reaching Piss Pass, the trio ascended on foot to the top of a small knob (5440') separating the Alpentel Resort and the Pineapple Pass area. On top of the knob, the group encountered approximately 20 other skiers and riders. While the team did have a discussion about the intended route, they did not discuss that the line was in the backcountry, nor had anyone in the group checked the avalanche forecast for the area.

Skier 1 led the group off the knob and towards a run known as 261. The group witnessed a lone snowboarder riding a line very close to their intended descent. Prior to entering the run, Skier 1 made mention of the possibility for wind slabs on the slope and the presence of a cliff below them and to the left. At approximately 430pm skier 1 traveled onto a slope just skiers-left of 261 and triggered the avalanche. Immediately realizing the slab had released, he yelled to his friends and pointed his skis downhill. He skied directly over the cliff and landed on the slopes below. While skier 1 attempted to keep his airway clear, the avalanche immediately began to bury him. Avalanche: NW, 5100-5200', m=40, SS-ASu-R3-D2-I, Crown 10-12" deep, 150' wide, 350' vertical run.

Rescue Summary

Skiers 2 and 3 were above and out of the main start zone when the slide released. They quickly did a visual search of the terrain above the cliff and descended a sparsely treed area to the north of the avalanche. Once they arrived below the cliff, they visually searched the debris field and found a ski pole sitting on the surface and the tip of a ski sticking out of the snow just downhill. Skier 3 began assembling his avalanche shovel and instructed skier 2 to begin digging with his hands in the direction of the victim's head. They very quickly uncovered a hand that allowed them to rapidly locate and uncover skier 1's face. He was attempting to yell, but his airway was clogged with snow. From the time the avalanche released to clearing the victim's airway was less than 5 min. Skier 1 was laying on his back, across the slope, with his head buried approximately 18" below the surface. Both skis remained attached during the event. Despite the relatively shallow burial, skier 1 could not move nor extricate himself.

After uncovering their teammate, the group recognized the potential overhead hazard from additional avalanches and chose to move locations. No one in the team had cell coverage to call for assistance. Despite his injuries, the victim was able to slide down-valley to a flat area above the “Big Trees” run. At this point, skier 1’s knee injury made further travel challenging. Skier 3 left the group to descend to the ski area and seek help. Skier 2 remained with the victim. Alpentel patrol received a call of an injured skier at approximately 515 pm and responded to the scene, with patrollers, a sled, and additional medical gear. They were able to load Skier 1 into the sled and extricate him to Lot 4 near the ski resort. All parties arrived back at the ski area around 745pm Saturday night. Alpentel Patrol and NWAC staff visited the site on Sunday 4/11/21 to complete an accident investigation. **Post Incident Video:** <https://youtu.be/3mracOi1hjQ>

Photos by Dallas Glass



Photo 1: Overview of the avalanche startzone.



Photo 2: The upper startzone near where the skier entered the slope. Crown depth 10-12".



Photo 3: Crown profile of the avalanche.



Photo 4: Looking down the avalanche path towards the cliff.



Photo 5: The debris pile below the cliff band. Rescuers traveled in the trees on the left hand side of the image.



Photo 6: Burial site. Skier 1 was found laying on his back with his body across the slope. His face was buried approximately 18" deep

261 Accident Profile
Snoqualmie Pass
WA

Elevation: **5127 ft**
 Aspect: **315°**

Dallas Glass

04/11/2021 - 3:00pm

Co-ord: **10T 616774W 5255983N**

Slope Angle: **40°**

Wind Loading: **previous**

Stability: **fair**

Air Temperature:

Sky Cover: **FEW**

Precipitation: **NO**

Wind: **SW Light Breeze**

Layer Notes:

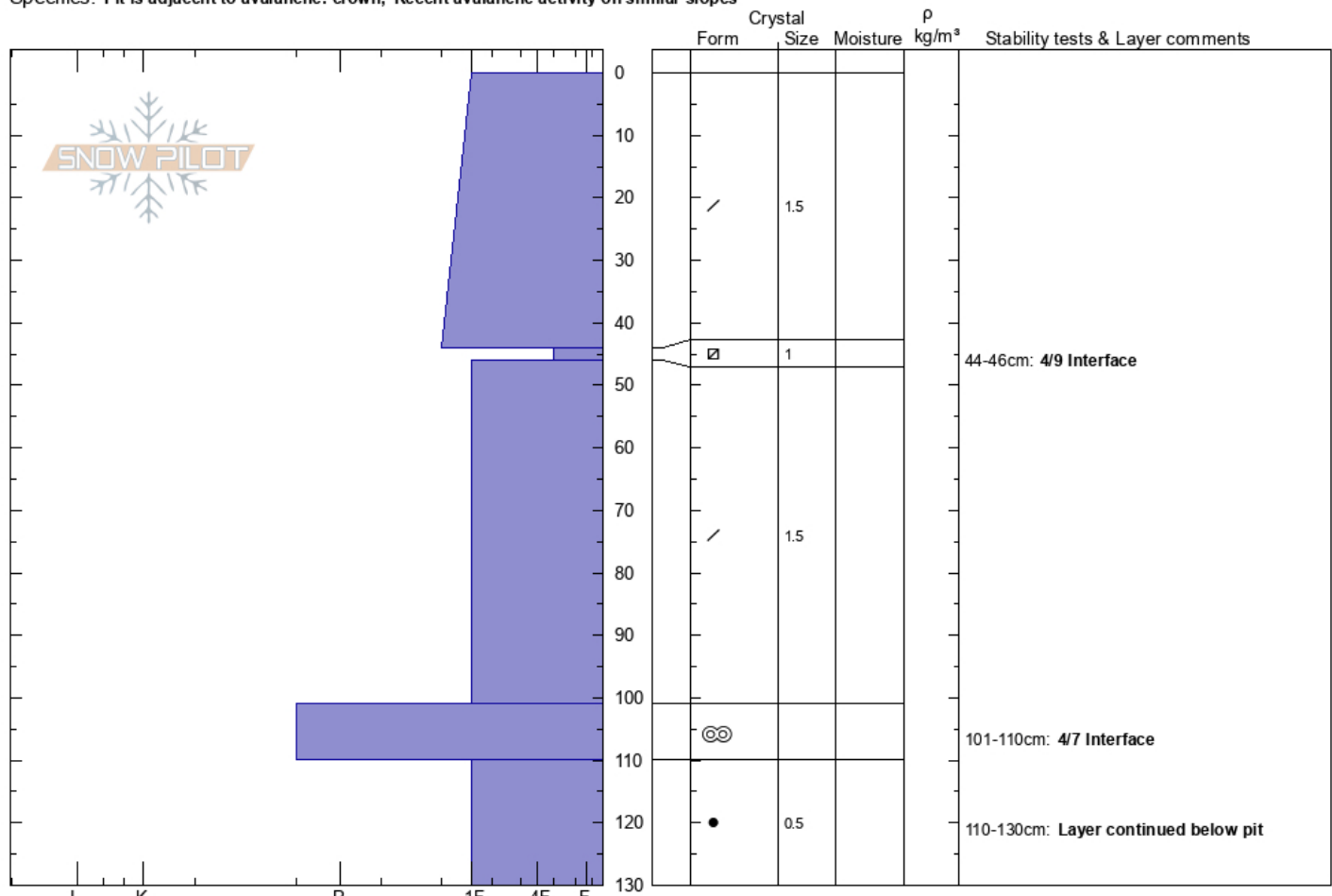
44-46cm: **4/9 Interface**

44-46cm: **Problematic layer**

101-110cm: **4/7 Interface**

110-130cm: **Layer continued below pit**

Specifics: Pit is adjacent to avalanche: crown; Recent avalanche activity on similar slopes



Notes:

BACKCOUNTRY AVALANCHE FORECAST

SNOQUALMIE PASS



ISSUED

Friday, April 9, 2021 - 6:43PM

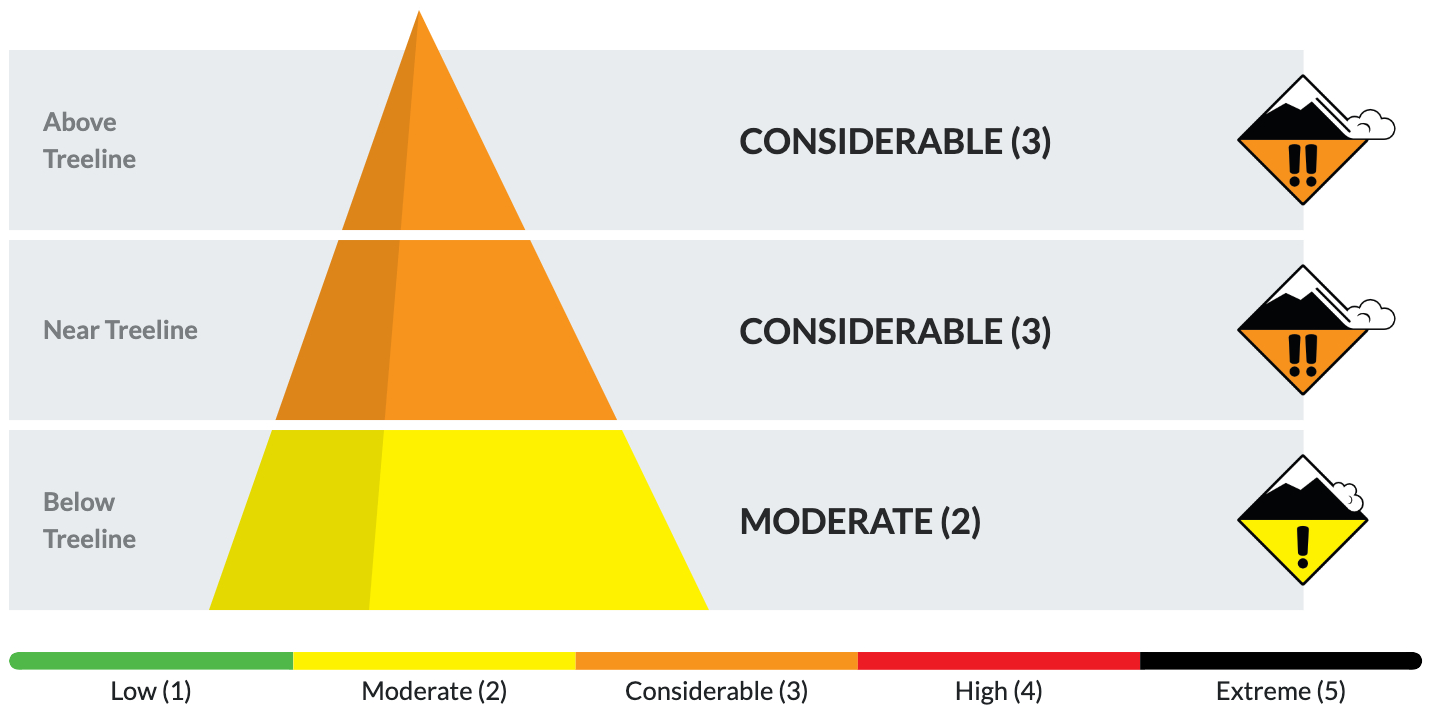
AUTHOR

Andy Harrington

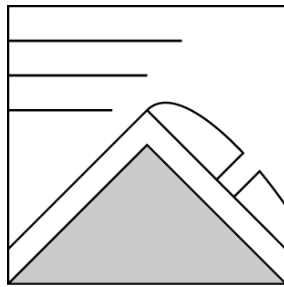
THE BOTTOM LINE

Another potent storm will impact Snoqualmie Pass, resulting in dangerous avalanche conditions on Saturday. Unstable snow, recent human-triggered avalanches, and dynamic springtime weather should lead you to dial back your terrain choices and avoid slopes over 35 degrees.

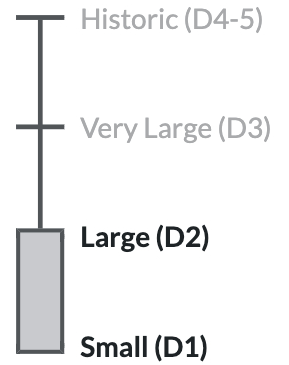
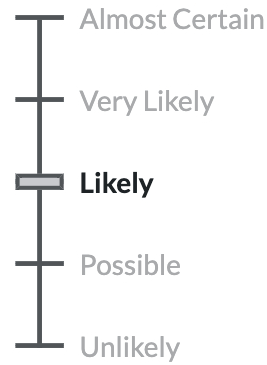
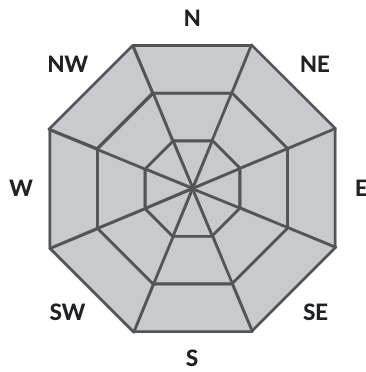
AVALANCHE DANGER



AVALANCHE PROBLEM #1



Wind Slab



PROBLEM TYPE

ASPECT/ELEVATION

LIKELIHOOD

SIZE

We haven't finished dealing with the last storm's instabilities yet and we are moving right into more stormy weather Friday night into Saturday. Fresh snow and moderate to strong winds will aid in Wind Slab development on leeward slopes near ridgelines, on convex rollovers, or near rocky features such as cliffs and gullies at all elevations. You can use visual clues such as actively blowing snow, textured snow surfaces, or freshly built cornices to help you identify wind-loaded slopes to avoid. Although wind-loaded terrain could be the most likely location to trigger an avalanche on Saturday, that doesn't mean that you can't trigger an avalanche on slopes over 35 degrees or convex rollovers in wind-sheltered terrain. Use small test slopes and hand pits as you travel to test the reactivity of the recent storm snow and avoid slopes over 35 degrees if you find a poorly bonded interface or suspect wind-loading.

FORECAST DISCUSSION

On Friday, multiple skier-triggered avalanches occurred at Snoqualmie Pass, including an involvement where a skier was caught and carried (size D2, with a 2' crown). These reports come a day after two separate [skier-triggered avalanches](#) occurred in close proximity in the Alpental Valley (on Thursday), and cap a week of near-misses and avalanche involvements throughout multiple zones in the Cascades. At Snoqualmie Pass alone, we have had a week that produced natural glide avalanches almost burying multiple parties and now dry slabs catching multiple parties off guard. We continue to bring up that the snowpack has not made its full transition to a springtime snowpack, and this past week provides proof with both dry and wet avalanche problems driving these involvements.

The storm on Wednesday night delivered up to 16" of snow above 4500' at Snoqualmie Pass, which was drifted into deeper piles by strong winds and sits atop a stout crust on most aspects (4/7 interface). In some locations, a layer of graupel has been observed at the base of the storm snow and was confirmed as the failure grain in Friday's avalanche involvement. The 4/7 interface is still a concern going forward and will only be buried deeper by the incoming storm (possibly as much as 3 feet). On slopes that see direct sunshine, small wet loose avalanches (up to size D1.5) were observed in the Alpental Valley on Friday morning and cornices were noted to have grown large in some locations. Although cool temperatures and mostly cloudy weather should dominate the day, if the sun makes an appearance, expect similar wet avalanche problems to develop again. Avoid slopes that see direct sunshine if you notice the snow surface getting sticky and wet, see fresh rollerballs, or recent avalanches with fan-shaped debris. Continue to be aware of your overhead hazards at all times - limiting your time beneath cornices and glide cracks.

As you can see, conditions are dynamic right now. As we navigate our way through springtime weather, the transitions between dry and wet avalanche problems can be rapid and unpredictable, just like the weather. It can make decision-making and forecasting challenging since you can't bring your winter mindset or spring mindset to the mountains to rely on for any given day. Perhaps the best advice is to learn from these recent incidents and dial back your terrain choices until more stable weather and snowpack patterns prevail.

During the ongoing Covid-19 pandemic, continue to follow the latest guidance from local, state, and federal health officials. Avoid unnecessary risks that could impact first responders and stress medical resources. Wear a mask when appropriate, practice social distancing, and consider recreating closer to home.