

Our Account:

We were on the second day of a ski traverse in the Lost River Range of Idaho's central mountains. We had successfully climbed Mount Breitenbach earlier that day and descended off its west face. We then traversed into an adjacent cirque below our next objective, Donaldson Peak. The most straightforward way to climb Donaldson is up the center of the cirque to a large bowl below a saddle at 10,600'.

We skinned up this large bowl toward a saddle at 10,600' below Donaldson Peak. Sam was setting the skintrack. The snow was soft and didn't feel wind effected. Sam made his last switchback before the saddle and was traversing across toward the ridgeline twenty feet below it. JP was spacing out 50' apart and was one switchback behind. The slope fractured and both Sam and JP were knocked off their feet.

Sam was able to knock off both of his skis immediately after the slope released. He self-arrested by fighting against the avalanche and swimming against the flow of snow. Sam stopped about twenty vertical feet from where he first fell.

When JP heard the collapse, he instantly dropped to his knees to hit and release his toe pieces of his binding and saw the slope shatter all around him. He was only able to release one ski before being swept downhill. The avalanche carried him 780 vertical feet and almost 1,400 linear feet. The remaining ski was acting as an anchor and he was face down for most of the descent; however, he was able to stay near the surface by using his arms to push off the solid blocks of debris underneath him. Sam was able to watch JP during almost the entire slide, and indicated he stayed above the surface of the avalanche, but was submerged at times. JP came to rest on top of the debris pile with his arm buried and one ski still on. He was not injured and was able to self-extricate.

Sam was able to find both of his skis within a couple hundred vertical feet of where he came to rest. His skis had stopped on the bed surface of the avalanche, which stepped down to the ground a couple hundred feet from the saddle we had almost gained. Sam proceeded to ski down to JP who was standing up and signaled he was okay. He did not get injured despite sliding 780' and having one of his skis stay on for the entire ride. We were able to locate his second ski, which just happened to stop near the surface of the debris pile about 50' feet from where JP came to rest. We exited out Jones Creek and ended our trip.

Reflection:

Our thoughts are that Sam initiated the upper persistent slab (resembling a storm slab) when he was approaching the ridgeline where the slab was thinner. It propagated nearly 1400' across the slope and stepped down into the basal facets/depth hoar and released a deep persistent slab. The upper crown had a uniform depth, and therefore did not present as a typical wind slab. It appeared more like a persistent slab that might have failed on a near surface

facet/crust combo. The recent NW wind loading and 0.5" SWE was enough to make the slab reactive.

We are both incredibly grateful to be alive and uninjured. We put ourselves in a dangerous situation by failing to properly investigate the snowpack in a remote area. The initial avalanche was likely some kind of shallow persistent/storm slab that we were unaware of and had enough force to trigger the deeper persistent slab. We probed and felt the persistent slab, but didn't test its energy. Had we dug an actual snow pit on this aspect, the likelihood of triggering a persistent slab avalanche would have been very evident. Doing this was even more important since we were in an area with an unknown snowpack. We would like to think that we would have chosen to abandon our objective for that day if we had realized and acknowledged that a persistent avalanche problem existed.

Lessons Learned:

- There are persistent slabs present on multiple aspects and various depths in the Lost River Range. Most need a medium sized loading event or need to be sympathetically released to step down into deeper persistent slabs.
- When going into a remote range, we should have dug and assessed stability more frequently in the field. Hand pits could have shown the persistent weak layer in the upper snowpack. Measuring the potential for propagation could have told us whether to call off our trip.
- It pays to know how to self-rescue yourself in an avalanche. By being quick to kick and pop off our skis, we weren't buried as deep as we could have been. When lying face down on the slab (and can't flip over on your back), push off hard debris to help stay on top.
- We should have treated this snowpack with an assessment mindset instead of assuming we were skiing a spring snowpack based on the time of year.
- Recent avalanches weren't helpful in evaluating avalanche hazard in our case. When we got to the top of Breitenbach, we could see a lot of terrain on aspects similar to where we triggered the slide, but there was no natural activity. We found out later there were other natural slides near Borah that were similar to the one we triggered.
- Being alert to only two avalanche problems that day blinded us from being alert to other potential problems (such as persistent slabs). We had discussed and believed the primary avalanche problems that day were wind slabs and loose avalanches. This was due to observing them in the field and seeing a lot of wind transport. Therefore, knowing we were not traveling on a wind slab gave us a false sense of security.
- Having GPS tracking devices on all traveling people in the group is vital. Sam had an InReach and JP had a SPOT. These devices allowed us to communicate with an outsider to come pick us up, and to notify loved ones that we were safe.