

Near Miss Avalanche Incident – Jan 3rd, 2014

Location: Turnagain Pass

Tincan mountain - Lower CFR, West aspect

Summary

Tincan avalanche, dog fully buried, presumed dead

January 3rd, 2014

2:50pm

HS-AO-D2.5-R2.5-O/G

(AO - Triggered by skiers and/or dog)

Vertical Fall of debris - 600 feet

Horizontal width at starting zone - 400 feet

Slope angle - 45 degrees in start zone

Crown depth - up to 3 feet

West aspect

Crown elevation - 2600 feet

Events

A group of 4 experienced skiers and 2 dogs had been skiing laps on Tincan since the morning. At approximately 2:45pm, the group skied down the windblown ridge, commonly called CFR, to the lower face where fall line transitions from a southwest to a west aspect. As the 4 were looking at the steeper slope below, one dog ran down the slope. The skiers felt the slope collapse and the avalanche initiated. The people were at the very top of the slab and scrambled to avoid being taken down themselves, but were not caught. They watched the dog in the flowing debris until it went out of sight in a powder cloud.

The group had good visibility of the runout and confirmed that no other people were caught in the avalanche. They yelled to others nearby to relay that all people were safe and accounted for, but the dog was missing.

The skiers performed a visual search of the debris to see if the dog was visible, with nothing found. At this point others from the area came over to offer help. Spot probing was initiated in terrain transition areas (convexities and benches) where debris had collected into deeper pockets. Witnesses pointed out the dog's fall line trajectory (roughly center of the slide path) and the search was focused in that area. About 12 people helped search with spot probing and a course probe line. No probe strikes were detected. Debris averaged 4-5 feet deep, with pockets that were over 9 feet deep. The search was abandoned at 4:25pm as darkness approached.

Analysis

The most recent storm was Dec 31st/Jan 1st, when nearly an inch of SWE fell at the Center Ridge SNOTEL site with 9 inches of recorded snow. Strong wind, exceeding 90mph was recorded at Sunburst during this storm. This storm produced an active avalanche cycle, including large naturals and explosive triggered slides. January 2nd and 3rd brought calm weather with little wind, mostly cloudy skies, and temperatures in the mid 20s F.

Average snow depth in the area was less than 3 feet from an unusually dry early winter. The snowpack consisted of several known weak interfaces near the bottom of the pack with a slab averaging 2 feet thick on top. The weak layers were loose faceted grains with little strength surrounding buried crusts. A freezing rain crust from early December sat just below the slab and facets surrounding this had been the most significant problem in the days leading into January 3rd. Test pit scores indicated moderate to high strength, but a tendency to propagate - either on top of or below the crust. Frequent collapsing was reported by skiers, including on the day of this event.

On January 2nd, the day before this event, a group remotely triggered several avalanches on the upper Tincan mountain. These slides were highly visible to anyone who toured to the top of Tincan common on Jan 3rd. Avalanche danger according to the CNFAIC was Moderate above treeline on January 2nd and 3rd, although in hindsight given the number of reported avalanches, the danger should have been listed as Considerable. Skier triggered avalanches were reported on Eddies, Sunburst, and Tenderfoot. A snowmachiner reported seeing a large avalanche in Bowl 2 on Seattle ridge with unknown trigger. All of these events showed a tendency for remote triggers and propagation across significant distances.

What likely happened was a collapse at the early December crust interface. The trigger may have been the 4 skiers near the ridge crest, the dog on the slope, or a combination. That collapse propagated across the steep slope, initiating the avalanche. As the slab fell it stripped the weaker and deeper layers, in some places all the way to the ground.

Photo 1. Crown face at the skier's left side of the avalanche



Photo 2. Illustration showing approximate area of avalanche

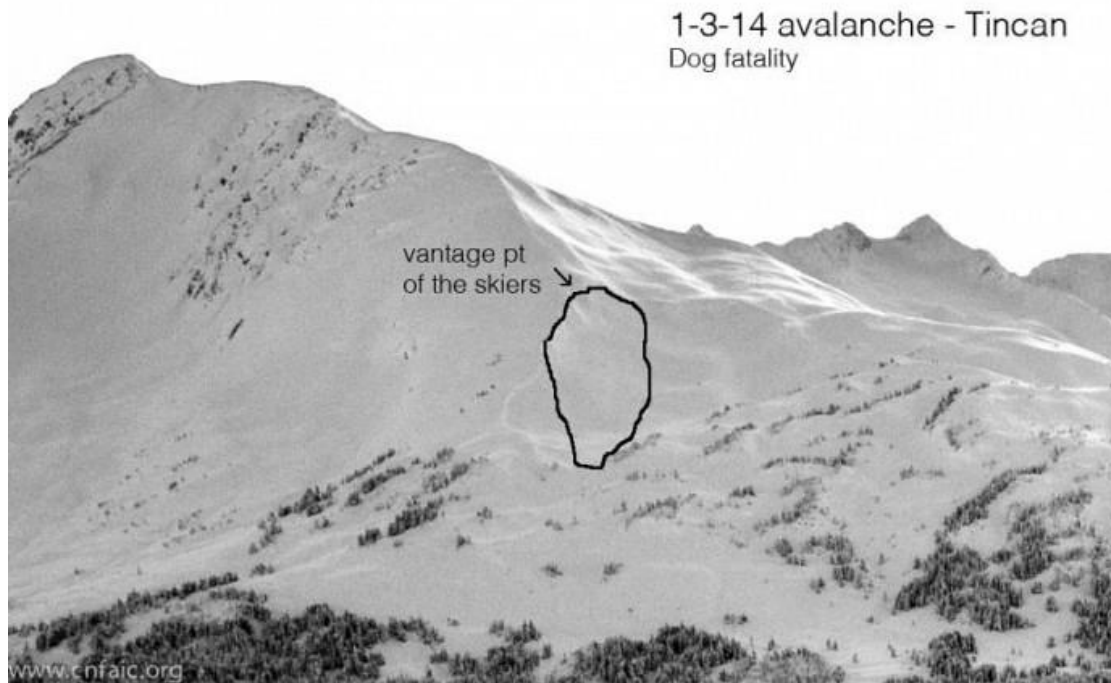


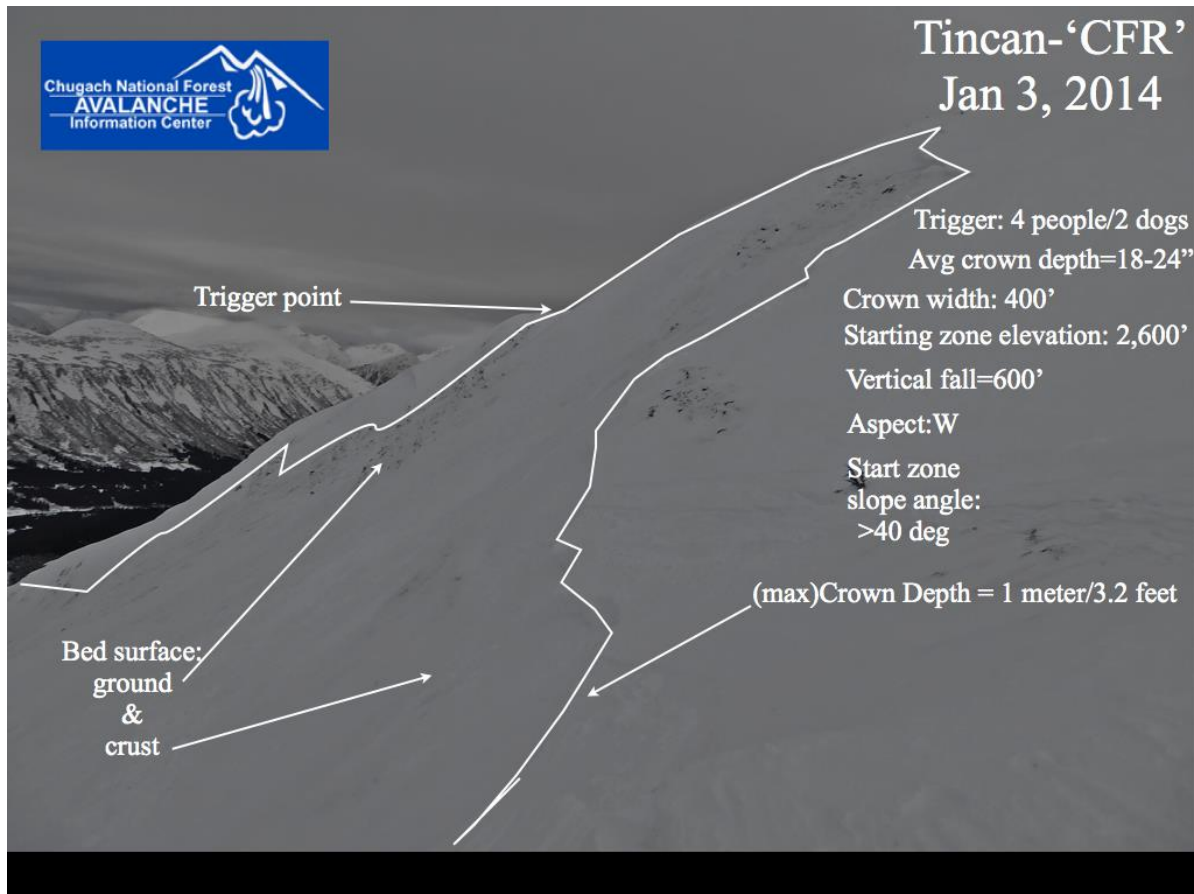
Photo 3. Debris, looking uphill to the crown



Photo 4. View from the standard skin track



Photo 5. Diagram of Slide



Lat: 60.7902 Long: -149.1648

