

FAIRVIEW CANYON, UTAH

2 AVALANCHE FATALITIES: JANUARY 2, 1999

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SYNOPSIS:

January 2, 1999, 75 feet east of the Fairview/Huntington Canyon Road on the Wasatch Plateau, just past mile-marker 12.

Two snowboarders are buried and killed when the cornice they walked onto collapsed, triggering an avalanche; the accident site is located and reported by worried family members. Sanpete County Sheriff's Search and Rescue personnel locate and recover the bodies at 03:00 on January 3.

REPORT:

On January 2 at about 8:00 in the morning, Matthew Summers Neilsen, 16, and Jesse Van Krebs, 17, left their homes in Mapleton, Utah to spend the day snowboarding in Fairview Canyon, an hour or so to the south. Although the Wasatch Plateau does not have an Avalanche Forecast Center, recent recreation reports from the Wasatch Front indicated that the avalanche hazard was probably high, due to recent snowfall and stiff winds.

When the young men failed to return home that evening, family members notified the Sanpete County Sheriff's office then began looking. The fathers located the boy's car parked in a turnout just past mile marker 12 on the Fairview/Huntington Canyon Road. About 75 feet east of the road, they found the young men's snowboards resting at the top of a fresh avalanche crown fracture and relayed this information to the Sheriff's office.

27 members of the Sanpete County Sheriff's Search and Rescue Team and Ambulance Service reported to the accident site. Led by John Jensen, the team responded professionally and appropriately, locating the bodies under 4 feet of avalanche debris by spot-probing around a large tree at the bottom of the slide path. The bodies were found right next to each other; neither man wore an avalanche beacon nor carried a shovel.

GENERAL AVALANCHE AND WEATHER CONDITIONS:

The canyons on the west side of the Wasatch Plateau funnel both prevailing NW/erly winds and SW storm flows across the road and onto the Plateau. Wind effects are pronounced, with NW/erly aspects generally scoured and bare, N and E aspects heavily loaded. The surface of the Plateau is irregular, with numerous small and potentially deadly terrain traps. These features appear to be very popular with snowmobilers and snowboarders who make a habit of high-marking and jumping off the abrupt transitions.

smoothed the bed surface except for a tree island dividing the path in two and some large trees in the deposition.

Bed Surface/Failing Weakness: The bed surface was dense and strong all the way to the ground with very little depth hoar beneath, unlike the general snowpack conditions. The avalanche and several test slopes ran on very hard (pencil-knife) and slippery wind slabs. These slabs likely formed during a long period of windy and mostly dry weather in November and December. An arctic front passed through during the week before Christmas, lowering overnight temperatures in Manti to -26° F. The snow pack remains quite cold and the gradient through the new snow probably contributed to the poor bond. The failing weakness was surface hoar crystals and light density snow that probably fell during a storm on New Year's Eve. In the fatal avalanche, this snow had partially recrystallized into small facets.

Shape: The slope begins abruptly as the terrain drops down to a large meadow from the flat plateau top where the road runs. The extreme ease of access obviously contributed to catching the victims unaware. This scarp is sporadically tree-covered and runs an additional ½ to ¾ of a mile along the road. The entire slope is recognized by SAR members as an active avalanche area that wind-loads consistently and runs regularly.

Other Avalanche Activity/Clues to Instability: Several small but similar test slopes within yards of the accident site were easily triggered and ran full path two days later. There was an old fracture on a similar, small slope nearby that was somewhat filled in and appeared to have run before the fatal slide. Long, wide settlement cracks ran along the upper edge of the scarp where it turned to another aspect and smaller cracks could be found in open, protected areas nearby. Extensive wind-scouring was apparent on S and W slopes and cornices and wind-pillows were obvious on lee slopes.

AVALANCHE DESCRIPTION:

Dimensions: The avalanche broke up to 130 cms deep and approx. 100 feet across, running 150 feet down a split path and into spotty trees.

Description: Slope Angle: 36° at the starting zone.

Aspect: Generally ENE; the slope undulates somewhat.

Anchoring/Roughness: The slope was heavily wind-loaded. While snow depth across the landscape averaged less than 2 feet, the avalanche slope held over 6 feet of snow prior to the slide. This deep snow cover obscured anchors and

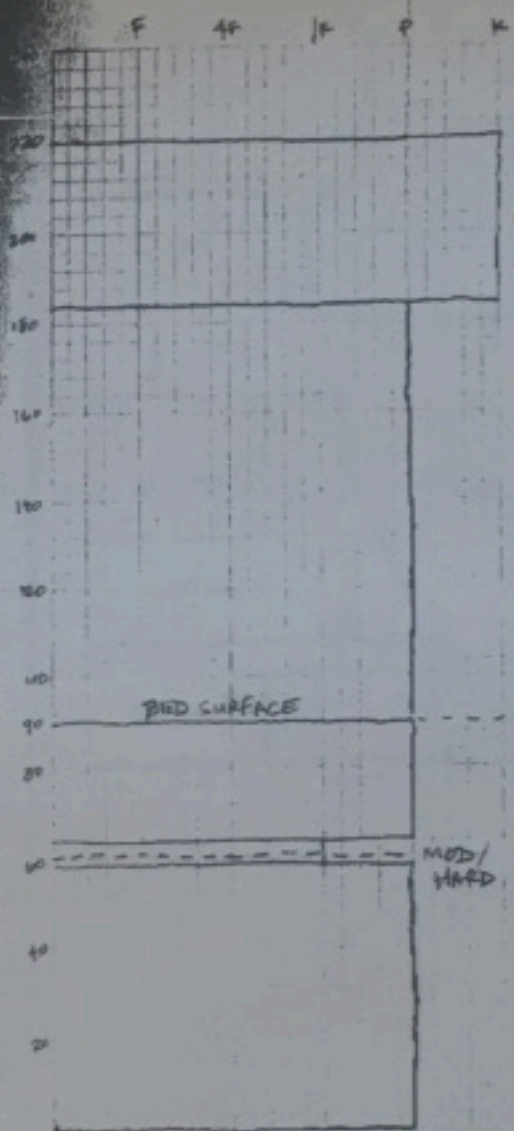
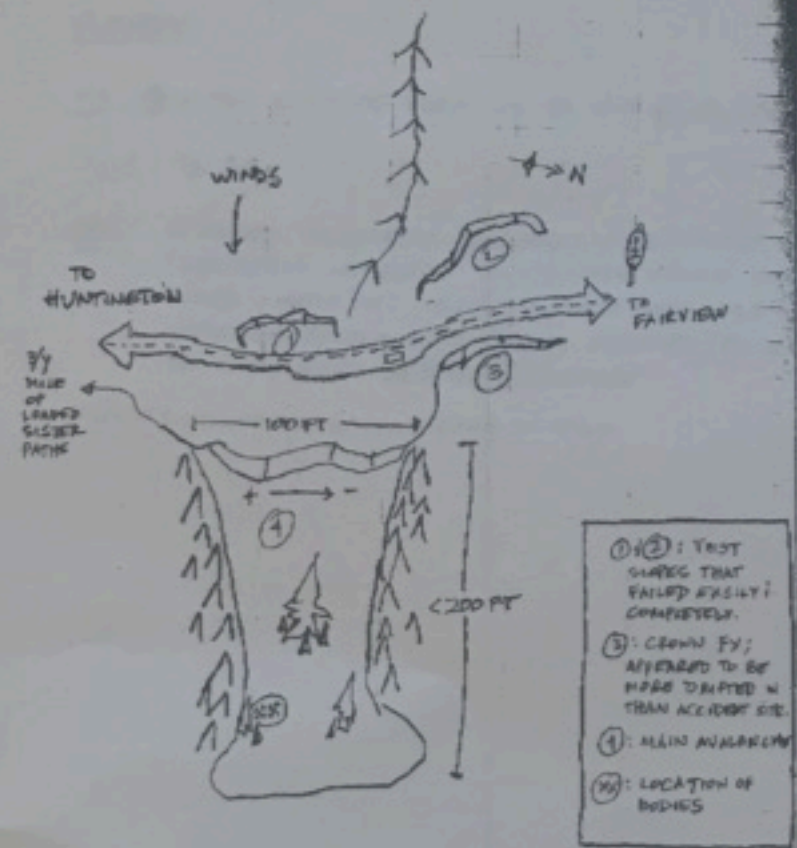
Field Notes:CROWN FY PROFILE:

LOCATION: ① OF ROAD AT PARKING AREA JUST
PAST MILE 12 -- 25 YDS FROM ROAD

TIME: 17:30

MAX DEPTH OF CROWN: 130 CM

ASPECT: ENE



Two backcountry tourers buried and killed

WEATHER AND SNOWPACK CONDITIONS

There was a long period of dry and windy weather in November and December. The slope that avalanched was drifted heavily through this period, leaving dense layers of snow. During a very cold period in late December, surface hoar and faceted snow developed on the snowpack surface. More drifts buried the weak surface hoar and near-surface facets in the days prior to the accident.

ACCIDENT SUMMARY

Fairview Canyon runs east from Fairview up towards Skyline Drive, on the crest of the Wasatch Plateau in central Utah. On January 2, two teenagers, Matthew Neilsen (16) and Jesse Krebs (17) left Mapleton, Utah to spend the day backcountry snowboarding. Neither teen carried avalanche safety equipment. When the two failed to return home that evening, the boys' families notified the Sanpete County Sheriff's office and then began looking for them. Family members located the teenagers' parked car near the top of the Fairview Canyon Road, on a ridge crest above Fairview Lakes. About 75 feet east of the road, they found two snowboards resting at the top of a broken cornice.

No rescue
equipment

RESCUE SUMMARY

The Sanpete County Sheriff Search and Rescue Team and Ambulance Service reported to the accident site with 27 searchers. Around 03:00 on January 3, rescuers located the teenagers while spot-probing around a large tree in the runout. Searchers found the teenagers right next to each other, buried under about four feet of debris.

Cornice fall

AVALANCHE DATA

The teens had walked onto the top of a cornice. The cornice broke under them, falling onto the slope below and entraining the pair in a slab avalanche. The slab broke up to five feet deep and 100 feet wide. The avalanche ran 150 vertical feet into scattered trees. The weak layer was buried surface hoar and faceted snow, sandwiched between densely drifted and very hard (pencil-to-knife hardness) layers of snow.

The slope was about 36 degrees in steepness at the top, and faced east-northeast. It makes an abrupt edge to the flat, meadowed plateau above. The slope was drifted heavily, with two to three times the amount of snow as in the surrounding areas.

COMMENTS

The roads across the Wasatch Plateau provides easy access to small, steep terrain features. These features do not appear to be avalanche terrain, in that there are few big slopes. The benign appearance of the terrain can lure recreationists onto cornices or avalanche-prone slopes.

JAN 5, 1999: AV. INCIDENT REPORT

LOCATION: FAIRVIEW CANYON/ SW-NE TRENDING
RIDGE ON (W) SIDE OF ROAD @ 11.12

ASPECT: N

ANGLE: 24°

ELEVATION:

WX: ① WINDS SHIFTING FROM SW TO NW @ 15-20 MPH

TIME: 16:00

OBS: SCORPED SOUTHERLY SLOPES; WIND-LOADED
NORTHERLY ASPECTS -- MANY WITH KNIFE-HARD
SLABS & CORNICES; SOFT, SENSITIVE SLABS &
CORNICES FORMING ON (W) ASPECTS, FAILING
ON HARD, SLICK OLD SNOW SURFACE

SURFACE: SMOOTH; SURFACE HARD TO 10 CM

