

# GRAVELLY RANGE AVALANCHE FATALITY

Activity

Snowmobiling

Date

1/16/2009

1 snowmobiler caught, buried and killed

Synopsis

SYNOPSIS:

A group of 14 snowmobilers went into the Black Butte area of the Gravelly Range when one of the riders triggered an avalanche. He was caught and fatally buried. The avalanche released on an east facing, wind-loaded slope. The slope angle was approximately 35-40 degrees with the crown face 1-4 feet deep, averaging 2 feet. The avalanche was estimated to be 200 feet wide and 75 feet vertical. US Classification of the avalanche is HS-AM-D2-R4-O.

GPS Coordinates for the slope is

N 44.54' 45"

W 111.53' 59.2"

Elevation of crown is 9,000 feet.

PHOTOS:

<http://mtavalanche.com/images/1232281305.jpg>

<http://mtavalanche.com/images/1232280870.jpg>

<http://mtavalanche.com/images/1232281037.jpg>

VIDEO CLIP:

<http://www.youtube.com/watch?v=WFMi1gtaH-o>

WEATHER:

The snowfall and temperature data for this incident is from the Carrot Basin SNOTEL site approximately 30 miles east of the avalanche. Wind data is from the Yellowstone Club 30 miles to the northeast.

Saturday, January 17th was a clear, calm day. The temperature was 36F at 9,000' feet at the time of the accident. The previous four days had no significant snowfall and winds were out of the west to northwest averaging 15-25 mph.

#### AVALANCHE:

This information was gathered by talking with JP a member of the group and first on the avalanche scene.

The victim, KH (50), was riding with a group of friends. There were 14 in the party and were very familiar with the terrain. They were all expert riders and had avalanche rescue gear. A few of the riders had taken avalanche courses from the GNFAC and some had read the Avalanche Advisory that morning. They saw an avalanche on Black Butte on the ride in and confirmed the weak, faceted snow at the ground every time they got stuck. As a group they decided to just boondock and stick to smaller slopes in the trees.

At approximately 1130 the group stopped in a meadow and noticed KH was missing. JP went looking for him. He found the track not far from the meadow. A little further along he saw the crown of the avalanche and then the snowmobile sticking out of the toe of the debris. At KH's sled he switched his beacon to receive and immediately picked up a signal and pinpointed him. He started digging and uncovered KH's head about 1-2 feet under the surface. He was in a sitting position with his back to the machine. JP estimates that 10-15 minutes elapsed from the time KH was missing until he was found. The others arrived and he was completely extricated by 1150. He was unconscious and pulseless and they began CPR. At 1210 they activated their SPOT messenger which notified a 911 call center. CPR continued for the next 2 ½ hours. KH had good color throughout so they knew they were doing effective compressions. At 1435 they suspended CPR.

The location of the avalanche was approximately 25 miles of riding from the Lyons Bridge trailhead. It was far from any trail and in the heart of the Gravelly Range in the remote backcountry. With minimal stops it was a 90-minute ride back to the trailhead.

#### SEARCH AND RESCUE:

The 911 SPOT message was relayed to Madison County SAR. Soon after receiving it they asked for assistance from Gallatin County SAR since they have a Heli-Rescue Team. Karl Birkeland and I met the helicopter at the

Gallatin County Fairgrounds and flew to the scene. We arrived at approximately 1530 and within 15 minutes had the victim placed in a net for long-line helicopter extrication. While he was being flown out I interviewed the party while Karl looked at the avalanche. The helicopter returned at 1615 to pick up Karl. I rode the victims snowmobile out to the trailhead arriving at 1800.

#### SNOWPACK:

Karl Birkeland investigated the avalanche and found the snowpack structure to be very similar to the nearby Madison Range. A pencil hardness wind slab was sitting on a layer of faceted snow. The avalanche broke within these facets and propagated for 200 feet, much further than its vertical relief of 75 feet. The slope got strongly cross loaded from south winds over the course of the season.

This avalanche is not in our advisory area. However, given the similarity of the snowpack it's worth noting that the avalanche danger in the Madison Range, 15 miles to the east, was rated [MODERATE](#).

Please contact me for more information or if you have any questions. I can be reached at 406-587-6984 or [dchabot@fs.fed.us](mailto:dchabot@fs.fed.us)

Doug Chabot

Director

Gallatin National Forest Avalanche Center