

## SNOW PROFILES, STABILITY TESTS & INTERPRETATION - PREWORK

Doug Chabot

1. Read Chapter 2 and reference Appendix F in Snow, Weather and Avalanches: Observational Guidelines for Avalanche Programs in the US. Use these pages as you create a SnowPilot profile.
2. Go to [www.snowpilot.org](http://www.snowpilot.org).
  - a. Create a user account
  - b. Watch the tutorial video on the homepage.
  - c. Make a practice snowpit or two.
    - i. Make sure you check the box "Practice Pit" on the *Core Info* page.
3. Create a snowpit in SnowPilot with details listed below.
  - a. Save it as a .jpg and print it out for class.
  - b. *Note: Set your preferences in SnowPilot for your personal use (feet or meters; Quality or Fracture Character, etc). Use the pit data below as a general reference...the preferences do not need to be exact.*
4. Answer the 3 questions at the end of the exercise.

### Core Info

Name: NAS-Bald Peak

Check: Practice Pit

Location: Montana; Henry Mtns

Coord: 44.724418 N; -111.348152 W

Elevation: 10,080'

Aspect: 210

Angle: 34

Date: use the day you create the profile

Height of Snowpack: 115 cm

Surface penetration: Boot; 20 cm

Precipitation: S-1

Air Temp: -5C

Sky Cover: 4/8 to 8/8 covered

Wind Speed: Light breeze

Wind Direction: South

Wind loading: Previous

Stability: Poor; Recent activity on similar slopes; Ski tracks on slope.

### Layers

Water Content: Dry for all layers

115-70 cm: Decomposing precipitation particles of 4F hardness; .5mm

70-45 cm: Rounded grains, 1F hardness snow; .5mm

45-44 cm: A thin layer primarily of near surface faceted grains (.5mm) and secondary grains of surface hoar (6mm), both fist hardness. This is our layer of greatest concern. The top of this layer is where breaks occur.

44-43 cm: A knife hard crust of melt-freeze crystals.

43-40 cm: Facets (1mm), fist hardness

40-39 cm: A knife hard rain crust.

39-0 cm: Facets (2-3mm) that are 4 finger hardness at the top of the layer and 1 finger hardness at the ground

### Stability Tests

Depth 70cm:

CT9, Q3

ECTN 10

Depth 44cm:

CT11, Q1

ECTP 11, ECTP 12

### Temperatures C

-10@110cm

-7@100

-6@90cm

-5@80cm

-5@70cm

-4@60cm

-4@50cm

-3@40cm

-3@30cm

-2@20cm

-1@10cm

0@0cm

### Density

250 kg/m<sup>3</sup> @90cm

325 kg/m<sup>3</sup> @60cm

300 kg/m<sup>3</sup> @20cm

### Questions

1. With time, would you expect the facets at the ground to grow into bigger facets or begin to round?
2. Since the layer at 70 cm has a lower stability test score than the layer at 44 cm, why isn't this the most unstable layer in the snowpack?
3. Would you ski this slope using typical backcountry precautions (one at a time, etc)?