

Location:		Surveyors:		Weather:						
Site:		Time:								
Pit:		Date:		Precipitation (circle one)	None	Light Snowfall	Moderate Snowfall	Heavy Snowfall	Rain	
Check List	Metadata in Headers		Temperature Profile		Sky (circle one)	Clear	PC 25%	PC 50%	MC 75%	Overcast
	NIR Photo of Pit Wall		Density Profile		Wind (circle one)	Calm	Breeze	Light	Moderate	Strong
	VIS Photos of Pit Wall and Site		Snow Wetness Profile		Wind (circle one)	Intermittent	Gusty	Steady		
	Surface Roughness Photo		Soil Moisture Sample		Ground Condition (circle one)		Frozen	Thawed	Uncertain	
	Grain Photos - All Layers		Weather Observations		Soil Moisture (circle one)		Dry	Moist	Wet	Saturated
	Grain Size Measurements		Ground Observations		Ground Roughness (circle one)		Smooth	Rough	Rugged	
	Grain Type Measurements		Vegetation Observations		Ground Vegetation (circle one or more)		Bare	Grass	Shrub	Deadfall
	Snow Wetness		Check Both Sheets		Height of Ground Vegetation (if present)			cm	cm	cm
1 Approach pit on single trail - leave on same trail when finished				Tree Canopy (circle one)		No Trees	Sparse (5-20%)	Open (20-70%)	Closed (>70%)	
2 Fill out data sheet header and take photo of header with all cameras				Grain Size						
3 Carefully excavate shaded face - leave area as undisturbed as possible				Observed Grain Size		0.1-1.0 mm	1.0-5.0 mm	>5.0 mm		
4 Take surface roughness photo with surface roughness board				Resolution to Record		0.1 mm	0.5 mm	1 mm		
5 Place ruler or depth probe on pit wall				Grain Type		Snow Wetness				
6 Take NIR & visible pit wall photos, site photos N, E, S, W in order, and overhead canopy				New Snow	N	Dry	Will not pack	D		
7 Collect and label soil sample - label is pit number and date				Rounds	R	Moist	Sticks together	M		
8 Simultaneously: take temperature profile, stratigraphy, grain size, snow wetness				Facets	F	Wet	Perfect snowballs	W		
9 Take grain photos. Photograph layer info on data sheet before each new layer.				Mixed Forms	M	Very Wet	Water can be squeezed	V		
10 Measure density in dual profile top to bottom.				Melt-Freeze	MF	Slush	Water drains freely	S		
11 Fill in all data and check list on second page - Leave no blanks!				Crust	C	New snow last 24 hrs? Use SWE tube				
12 Backfill pit with snow - leave red pole marker on edge of disturbed snow				Ice Lens	L	Depth:	cm	SWE:	mm	

Snow Pit Sheet Explanations	
Sheet 1	
Location	Either Grand Mesa, CO or Senator Beck Basin, CO (GM-CO or SBB-CO will do)
Site	This is the Transect Number, or LSOS, or Met station, etc.
Pit	If a Transect Pit, then use the pit number on the pit ID sheet, If LSOS or Met Station, use date
Total Depth	Value from ruler or probe on pit wall
UTME	UTM easting - use value from your GPS
UTMN	UTM northing - use value from your GPS
UTM Zone	One or two digits with letter (e.g. 12S) - use value from your GPS
Slope	Report to closest degree. Use slope meter.
Surveyors	Write first initial and last name of all pit crew, e.g. D. Smith, J. Jones
Date	M/D/YY, e.g. 2/7/17
Time	Military Mountain Standard Time, e.g. 1425 MST
Comments/Notes	Anything of interest or use that doesn't fit in another category, for example:
	Small streambed in bottom of pit
	Pit on frozen lake bed;
	Ice layers from 83-67 cm made sampling difficult
	Small surface hoar layer in depressions, 2-3 mm
Density	
Height above ground	Top - top level from ruler. Bottom - layer bottom level - should be 10 cm increment (e.g. 93-83)
	Measure every ten cm from surface (e.g. 93-83, 83-73, 73-63,,, 13-3)
	At profile base, try to get measurement as close to ground as possible (e.g. 11-1)
Density A	Density from first sample in dual profile (gram value from scale - e.g. 323)
Density B	Density from second sample in dual profile (gram value from scale - e.g. 323)
Temperature	
Height above ground	Measure surface, then 10 cm increments on even tens (e.g. 93, 90, 80, 70,,,,0)
Temperature	Read digital thermometer and record to tenth of a degree Celsius (e.g. -5.2) Do NOT use F
Stratigraphy	
Height above ground	Height of distinct layer boundaries. Will not match density heights (e.g. 93-77)
	Bottom of one layer should be same as top of the next lower layer - leave no area unaccounted for
Grain size	See range and resolution guide on Sheet 2
Grain size min	Mean of the smaller grains seen with macroscope - use the scale in the macroscope

Grain size max	Mean of the larger grains seen with macroscope - use the scale in the macroscope
Grain size mean	Mean of all grains seen with macroscope - use the scale in the macroscope
	For older snow use the long axis of the grains
	For new snow use branch diameter for min size, use branch length for max size
Grain type	Letter code - see Sheet 2
Grain photo	Letter code - Y for yes, picture taken; N for no, picture not taken
Snow wetness	Letter code - see Sheet 2
Stratigraphy comments	Any useful information that will help in interpretation, e.g.:
	Lens is discontinuous and varies in thickness (2-15 mm); see example sheet

Snow Pit Sheet Explanations

Sheet 2	
Location	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Site	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Pit	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Surveyors	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Date	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Time	Same as sheet 1, but FILL THIS OUT! This will keep these sheets together in database
Check list	Note taker should check these off after each item is completed
Weather	Comments not addressed in boxes below - e.g. high cirrus; cloud cover changing rapidly;. air temperature dropping steadily; wind increasing, etc.
Precipitation	None - no atmospheric deposition - there may be blowing snow, but no snowfall
	Light snowfall - occasional snowflake up to 1 cm per hour accumulation
	Moderate snowfall, 1-2 cm per hour accumulation
	Heavy snowfall - > 2 cm per hour accumulation
	Rain - liquid precipitation - does not include snowfall that melts when deposited
Sky	Clear - very little cloud cover
	PC 25% - partly cloudy - approximately 25% of sky covered by clouds
	PC 50% - partly cloudy - approximately 50% of sky covered by clouds
	MC 75% - Mostly cloudy - approximately 75% of sky covered by clouds
	Overcast - Approximately 100% of sky covered by clouds, may have very minor clear patches
Wind	Calm - no detectable motion
	Breeze - very light motion, will move feathers, paper
	Light - noticeable, moves branches, hair, light objects
	Moderate - moves anything light, branches sway, snow may be transported if powder
	Strong - snow transport, tree bent or swaying, uncomfortable
	Intermittent - periods of no motion punctuated by occasional motion
	Gusty - constant variability from no motion to noticeable motion
	Steady - constant motion, relatively uniform speed and direction
Ground condition	Subjective - assess while collecting soil moisture sample
Soil moisture	Subjective - assess while collecting soil moisture sample
Ground roughness	Smooth < 1 cm variability; Rough 1-5 cm variability, Rugged > 5 cm variability, rocks, etc.

Ground vegetation	Note that there may be one or more categories present - circle all that apply
	Bare - little or no vegetation - duff, exposed soil or rock surface
	Grass - any grass, forb or sedge
	Shrub - any bush or shrub with woody stem
	Deadfall - significant sticks, logs , or dead trees on or near ground
Height of ground vegetation	Height for Ground Vegetation category in cell above
	Grass - height if penetrating snowpack, thickness of mat if compressed
Tree canopy	Rough categories looking straight overhead from pit site
New snow last 24 hours	Complete only if there is a clear boundary defining new snow from the old snow surface
	Recorded zero if no new snow. If new snow but indeterminate boundary, write DNF