

Soil Profile Log Form Guide

The purpose of this guide is to help you to understand how to fill in the Soils Profile Log Form. The guide consists of a blank soil profile log form. You will notice across the various columns the words "See" followed by a number. Following the blank soil profile log form there are four additional pages. On these four you'll notice the words "SEE" followed by a number. By matching the "See" number on the log form with the "See" number on the explanation pages you should be able to fill in the Soil Profile Log Form, with the properly formatted information.

SEE 1

Horizon: Refers to the different layers of soil starting at the surface with topsoil and indicated on Soils Profile Log Form as "A" (top soil or first horizon), "B" (second horizon), "C" (third horizon), etc. etc.

SEE 2

Depth: Measured from the ground surface down to the top and bottom of each soil horizon.

SEE 3

Texture: Textures will be listed as one of the following classifications for each horizon.

COS - Course Sand	LVFS - Loamy Very Fine Sand
MS - Medium Sand	COSL - Course Sandy Loam
LCOS - Loamy Course Sand	MSL - Medium Sandy Loam
LMS - Loamy Medium Sand	FSL - Fine Sandy Loam
FS - Find Sand	VFSL - Very Fine Sandy Loam
LFS - Loamy Fine Sand	L - Loam
VFS - Very Find Sand	SIL - Silt Loam
SI - Silt	SCL - Sandy Clay Loam
CL - Clay Loam	SICL - Silty Clay Loam
SC - Sandy Clay	SIC - Silty Clay
C - Clay	HC - Heavy Clay

SEE 4

HT or **LAB:** HT means Hand Texturing. Determining the texture of the soil by manipulating a small portion of soil by hand. Lab means the texture was determined by laboratory analysis. Either indicate in box HT or Lab depending on how texture was determined.

SEE 6

Gleying: Means a characteristic of a soil that has undergone gleysation, which is soil forming process, operating under poor drainage conditions, which result in redoximorphic features (the production of iron and other elements resulting in bluish greenish or gray soil colors and/or gray colored models). It is indicative of soils that are saturated or waterlogged for significant periods of time which limit the suitability of the soil for an effluent treatment system.

SEE 11

Moisture: Indicate as: Dry, Slightly damp, Damp, Moist, Wet, Very wet.

Alberta Private Sewage Treatment System Soil Profile Log Form

Owner Name or Job ID.												
Legal Land Location								Test Pit GPS Coordinates				
LSD-1/4	Sec	Twp	Rg	Mer	Lot	Block	Plan	Easting	Northing			
Vegetation notes:								Overall site slope %	SEE 13			
								Slope position of test pit:	SEE 14			

Test hole No.	Soil Subgroup	Parent Material	Drainage	Depth of Lab sample #1	Depth of Lab sample #2
			SEE 15		

Hori- zon	Depth (cm) (in)	Texture	Lab or HT	Colour	Gleying	Mottling	Structure	Grade	Consistence	Moisture	% Coarse Fragments
SEE 1	SEE 2	SEE 3	SEE 4	SEE 5	SEE 6	SEE 7	SEE 8	SEE 9	SEE 10	SEE 11	SEE

Depth to Groundwater			Limiting Soil Layer Characteristic, describe
Depth to Seasonally Saturated Soil			Depth to Limiting Soil Layer
Limiting Topography			Depth to Highly Permeable Layer

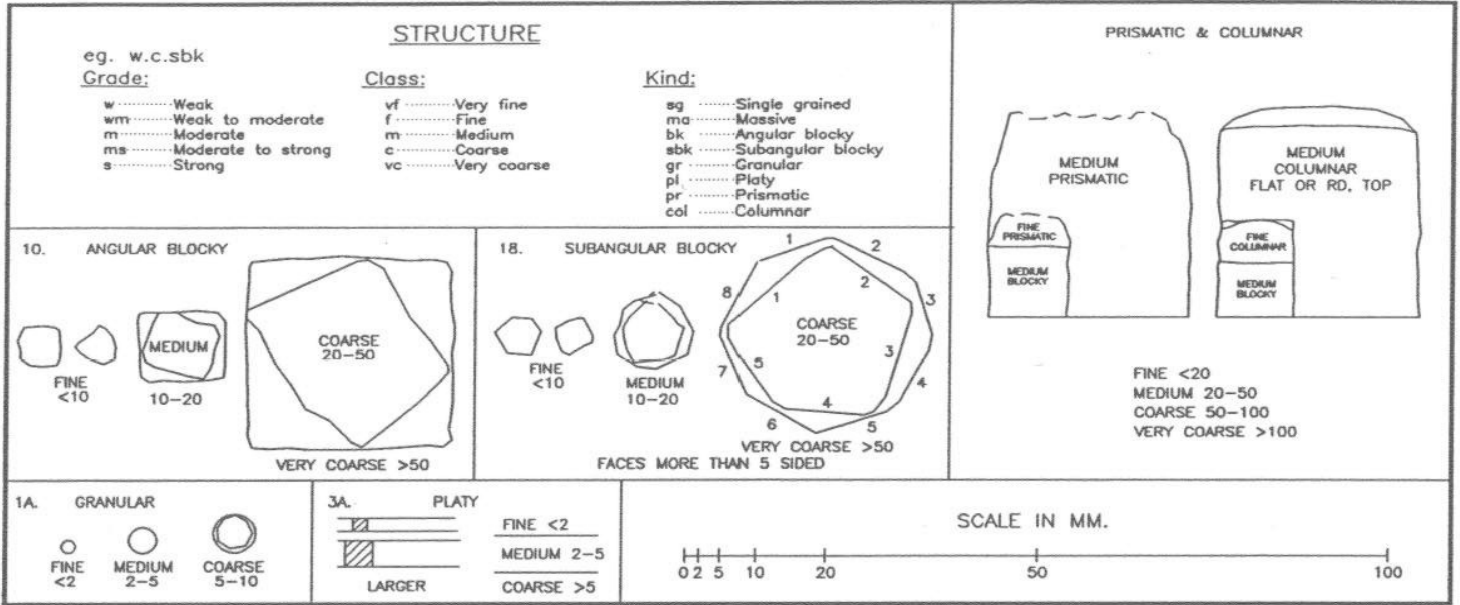
Key Limiting Features on System Design	
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Weather Condition notes:

Comments: such as root depth and abundance or other pertinent observations:

Figure 4: Diagrammatic representation of soil structure

SEE 8 ALSO SEE 8 ON NEXT PAGE



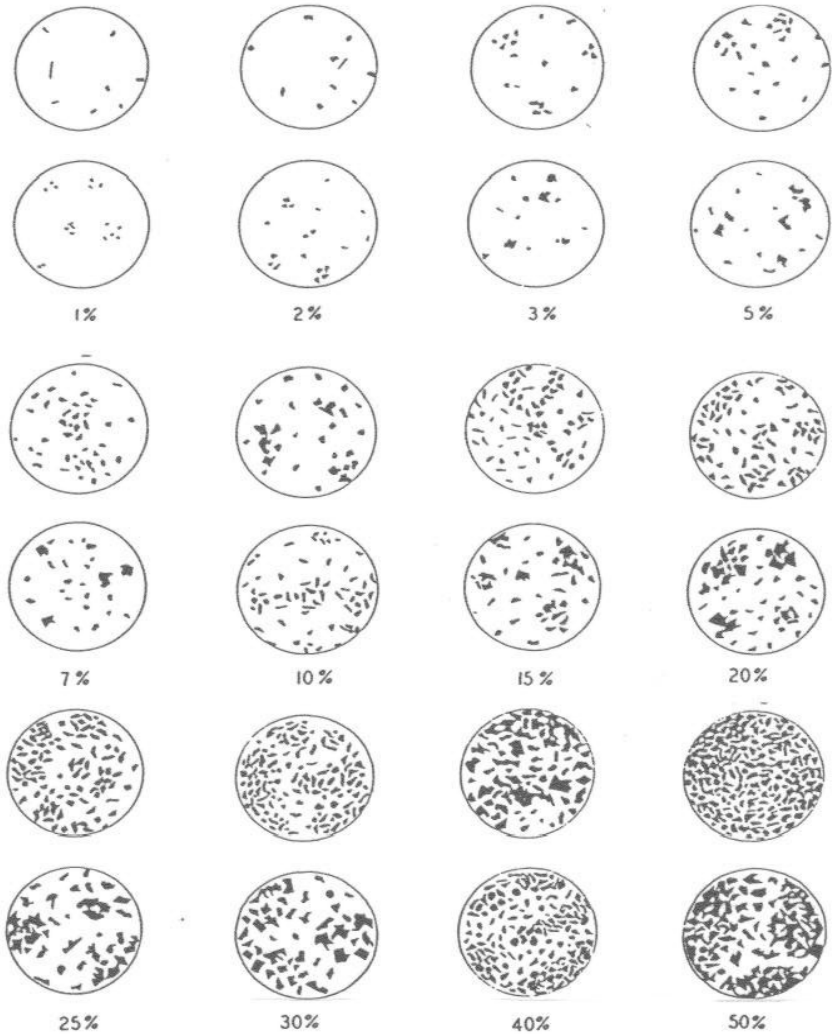
SEE 13

SLOPE CLASSES
OF LOCAL LANDFORMS

Slope Class	Percent Slope	Approximate Degrees	Description
1	0-0.5	0	level
2	0.5-2.5	0.3-1.5	nearly level
3	2-5	1-3	very gentle slopes
4	6-9	3.5-5	gentle slopes
5	10-15	6-8.5	moderate slopes
6	16-30	9-17	strong slopes
7	31-45	17-24	very strong slopes
8	46-70	25-35	extreme slopes
9	71-100	35-45	steep slopes
10	>100	>45	very steep slopes

SEE 12

PERCENT AREAS



SEE 12

SURFACE STONINESS

	Surface Area	Distance Apart (cm)
S0 non-stony	<0.01%	>30
S1 slightly stony	0.01-0.1%	10-30
S2 moderately stony	0.1-3%	2-10
S3 very stony	3-15%	1-2
S4 exceedingly stony	15-50%	0.1-5
S5 excessively stony	50%	0.1

SEE 14

SLOPE POSITION

- c - crest
- u - upper slope
- m - mid slope
- l - lower slope
- t - toe
- d - depression
- l - level

SEE 15

DRAINAGE

- VR - very rapidly
- R - rapidly
- w - well
- M - moderately well
- I - imperfectly
- P - poorly
- VP - very poorly

Table 10. Types, kinds and classes of soil structure. SEE 8

Type	Kind (Kind Code)	Structure Class and Code	Size ¹ (mm)
Blocklike - soil particles arranged around a point and bounded by flat or rounded surfaces BK	Angular blocky (ABK) peds bounded by flattened, rectangular faces intersecting at relatively sharp angles	VF: very fine angular blocky F: fine angular blocky M: medium angular blocky C: coarse angular blocky VC: very coarse angular blocky	<5 5-10 10-20 20-50 >50
	Subangular blocky (SBK): peds bounded by slightly rounded, subrectangular faces with vertices ² of their intersections mostly subrounded	VF: very fine subangular blocky F: fine subangular blocky M: medium subangular blocky C: coarse subangular blocky VC: very coarse subangular blocky	<5 5-10 10-20 20-50 >50
	Granular (GR): spheroidal peds bounded by curved or very irregular faces that do not adjoin those of adjacent peds	VF: very fine granular F: fine granular M: medium granular C: coarse granular VC: very coarse granular	<1 1-2 2-5 5-10 >10
Platelike: soil particles arranged around a horizontal plane and generally bounded by relatively flat horizontal surfaces PL	Platy (PL): peds flat or platelike; horizontal planes more or less well developed	VF: very fine platy F: fine platy M: medium platy C: coarse platy VC: very coarse platy	<1 1-2 2-5 5-10 >10
		Prismatic (PR): vertical faces of peds well defined and vertices ² angular (edges sharp); prism tops essentially flat	VF: very fine prismatic F: fine prismatic M: medium prismatic C: coarse prismatic VC: very coarse prismatic
Prismlike: soil particles arranged around a vertical axis and bounded by relatively flat vertical surfaces. PR	Columnar (COL): vertical edges near top of columns not sharp (vertices ² subrounded); column tops flat, rounded, or irregular	VF: very fine columnar F: fine columnar M: medium columnar C: coarse columnar VC: very coarse prismatic	<10 10-20 20-50 50-100 >100
	Single grained (SGR):	Loose, incoherent mass of individual primary particles, as in sands	
Structureless: no observable aggregation of primary particles or no definite orderly arrangement around natural lines of weakness MA	Massive (MA):	amorphous; a coherent mass showing no evidence of any distinct arrangement of soil particles; separates into clusters of particles; not peds	
Cloddy (CDY): not a structure; used to indicate the condition of some ploughed surface, grade, class, and shape too varied to be described in standard terms.			

¹ The size limits refer to measurements in the smallest dimension of platy, prismatic, and columnar peds and to the largest of the nearly equal dimensions of blocky and granular peds.

² Definition of vertex (plural, vertices): the intersection of two planes of a geometrical figure.

SEE 10

Consistence – moist soil	
• Loose:	No intact sample can be obtained.
• Friable:	Structure breaks down with slight force between the fingers.
• Firm:	Structure breaks down with moderate force between the fingers.
• Extremely firm:	Structure breaks down with moderate force between the hands or slight foot pressure.
• Rigid:	Structure breaks down only with foot pressure.

Structure Grade Descriptions SEE 9 GRADE

Code		Structure Grade Definition
0	Massive /or single grained used to describe sands	This describes a soil that has no developed structure. There is no aggregation of primary particles or no definite orderly arrangement around natural lines of weakness.
1	Weak	Peds are either indistinct and barely evident in place, or observable in place but incompletely separated from adjacent peds. When disturbed, the soil material separates into a mixture of only a few entire peds, many broken peds and much unaggregated material. Peds are moderately durable, and are evident but not distinct in the undisturbed soil. When disturbed, the soil material parts into a mixture of many well formed, entire peds, some broken peds, and little unaggregated material. The peds may be handled without breaking and they part from adjoining peds to reveal nearly entire surfaces which have properties distinct from those caused by fracturing.
2	Moderate	Peds are durable and evident in the undisturbed soil, adhere weakly to one another, withstand displacement and separate cleanly when the soil is disturbed. When removed, the soil material separates mainly into entire peds. Surfaces of unbroken peds have distinctive properties, compared to surfaces that result from fracturing.
3	Strong	

Mottling Descriptions SEE 7 MOTTLING

Parameter	Code	Description
Abundance	Few	<2% of the exposed surface
	Common	2-20% of the exposed surface
	Many	>20% of the exposed surface
Size	Fine	< 5 mm
	Medium	5-15 mm
	Coarse	>15 mm
Contrast	Faint	Evident only on close examination. Faint mottles commonly have the same hue as the colour to which they are compared and differ by no more than 1 unit of chroma or 2 units of value. Some faint mottles of similar but low chroma and value can differ by 2.5 units of hue.
	Distinct	Readily seen, but contrast only moderately with the colour to which they are compared. Distinct mottles commonly have the same hue as the colour to which they are compared, but differ by 2 to 4 units of chroma or 3 to 4 units of value; or differ from the colour to which they are compared by 2.5 units of hue but by no more than 1 unit of chroma or 2 units of value.
	Prominent	Contrast strongly with the colour to which they are compared. Prominent mottles are commonly the most obvious colour feature in a soil. Prominent mottles that have medium chroma and value commonly differ from the colour to which they are compared by at least 5 units of hue if chroma and value are the same; or at least 1 unit of chroma or 2 units of value if hue differs by 2.5 units.