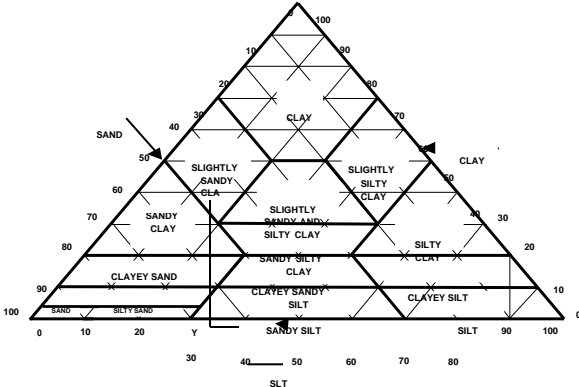


## SUMMARY OF SOIL STANDARD AND ROCK PROFILE DESCRIPTION

### TERMINOLOGY

#### STANDARD DESCRIPTIONS USED IN SOIL PROFILING

1. MOISTURE CONDITION		2. COLOUR	
Term	Description	The Predominant colours or colour combinations are described including secondary coloration described as banded, streaked, blotched, mottled, speckled or stained.	
Dry			
Slightly moist	Requires addition of water to reach optimum moisture content for compaction		
Moist	Near optimum content		
Very Moist	Requires drying to attain optimum content		
Wet	Fully saturated and generally below water table		
3. CONSISTENCY			
3.1 Non-Cohesive Soils		3.2 Cohesive Soils	
Term	Description	Term	Description
Very Loose	Crumbles very easily when scraped with geological pick	Very soft	Easily penetrated by thumb. Sharp end of pick can be pushed in 30 - 40mm. Easily moulded by fingers.
Loose	Small resistance to penetration by sharp end of geological pick	Soft	Pick head can easily be pushed into the shaft of handle. Moulded by fingers with some pressure.
Medium Dense	Considerable resistance to penetration by sharp end of geological pick	Firm	Indented by thumb with effort. Sharp end of pick can be pushed in up to 10mm. Can just be penetrated with an ordinary spade.
Dense	Very high resistance to penetration to sharp end of geological pick. Requires many blows of hand pick for excavation.	Stiff	Penetrated by thumbnail. Slight indentation produced by pushing pick point into soil. Cannot be moulded by fingers. Requires hand pick for excavation.
Very Dense	High resistance to repeated blows of geological pick. Requires power tools for excavation	Very Stiff	Indented by thumbnail. Slight indentation produced by blow of pick point. Requires power tools for excavation.
4. STRUCTURE		5. SOIL TYPE	
		5.1 Particle Size	
Term	Description	Term	Size ( mm )
Intact	Absence of fissures or joints	Boulder	>200
Fissured	Presence of closed joints	Pebbles	60 – 200
Shattered	Presence of closely spaced air filled joints giving cubical fragments	Gravel	60 – 2
Micro shattered	Small scale shattering with shattered fragments the size of sand grains	Sand	2 – 0,06
Slickensided	Polished planar surfaces representing shear movement in soil	Silt	0,06 – 0,002
Bedded Foliated	Many residual soils show structures of parent rock.	Clay	<0,002

6. ORIGIN		5.2 Soil Classification
6.1 Transported Soils		 <p>A ternary diagram for soil classification based on the percentages of Sand, Silt, and Clay. The diagram is an equilateral triangle with vertices labeled 100 for Sand (top), 100 for Silt (bottom left), and 100 for Clay (bottom right). The diagram is divided into regions for various soil types: SAND, SILTY SAND, CLAYEY SAND, SANDY SILT, CLAYEY SILT, SILT, CLAY, SILTY CLAY, and CLAYEY CLAY. The diagram also includes labels for 'SLIGHTLY SANDY SILT', 'SLIGHTLY SILTY CLAY', and 'SLIGHTLY SANDY CLAY'. Arrows point to the Sand, Silt, and Clay vertices. A scale for Silt is shown at the bottom, ranging from 0 to 100.</p>
Term	Agency of Transportation	
Colluvium	Gravity deposits	
Talus	Scree or coarse colluvium	
Hillwash	Fine colluvium	
Alluvial	River deposits	
Aeolian	Wind deposits	
Littoral	Beach deposits	
Estuarine	Tidal – river deposits	
Lacustrine	Lake deposits	
6.2 Residual soils		
These are products of in situ weathering of rocks and are described as e.g. Residual Shale		
6.3 Pedocretes		
Formed in transported and residual soils etc. calcrete, silcrete, manganocrete and ferricrete.		

## SUMMARY OF DESCRIPTIONS USED IN ROCK CORE LOGGING

1. WEATHERING				
Term	Symbol	Diagnostic Features		
Residual Soil	W5	Rock is discoloured and completely changed to a soil in which original rock fabric is completely destroyed. There is a large change in volume.		
Completely Weathered	W5	Rock is discoloured and changed to a soil but original fabric is mainly preserved. There may be occasional small corestones.		
Highly Weathered	W4	Rock is discoloured, discontinuities may be open and have discoloured surfaces, and the original fabric of the rock near the discontinuities may be altered; alteration penetrates deeply inwards, but corestones are still present.		
Moderately Weathered	W3	Rock is discoloured, discontinuities may be open and will have discoloured surfaces with alteration starting to penetrate inwards, intact rock is noticeably weaker than the fresh rock.		
Slightly Weathered	W2	Rock may be slightly discoloured, particularly adjacent to discontinuities, which may be open and will have slightly discoloured surfaces, the intact rock is not noticeably weaker than the fresh rock.		
Unweathered	W1	Parent rock showing no discolouration, loss of strength or any other weathering effects.		
2. HARDNESS			3. COLOUR	
Classification	Field Test	Compressive Strength Range MPa	The predominant colours or colour combination are described including secondary colouration described as banded, streaked, blotched, mottled,	
Extremely Soft Rock	Easily peeled with a knife	<1		
Very Soft Rock	Can be peeled with a knife. Material crumbles under firm blows with the sharp end of a geological pick.	1 to 3		
Soft Rock	Can be scraped with a knife, indentation of 2 to 4 mm with firm blows of the pick point.	3 to 10		
Medium Hard Rock	Cannot be scraped or peeled with a knife. Hand held specimen breaks with firm blows of the pick.	10 to 25		
Hard Rock	Point load tests must be carried out in order to distinguish between these classifications	25 - 70		
Very Hard Rock	These results may be verified by uniaxial compressive strength tests on selected samples.	70 - 200		
Extremely Hard Rock		>200		
4. FABRIC				
4.1 Grain Size		4.2 Discontinuity Spacing		
Term	Size (mm)	Description for: Bedding, foliation, laminations	Spacing (mm)	Descriptions for joints, faults, etc.
Very Coarse	>2,0	Very Thickly Bedded	> 2000	Very Widely

Coarse	0,6 – 2,0	Thickly Bedded	600 – 2000	Widely
Medium	0,2 – 0,6	Medium Bedded	200 – 600	Medium
Fine	0,06 – 0,2	Thinly Bedded	60 – 200	Closely
Very Fine	< 0,06	Laminated	3 – 60	Very closely
		Thinly Laminated	<3	
5. ROCK NAME			6. STRATIGRAPHIC LAYER	
Classified in terms of origin:			Identification of rock type in terms of stratigraphic layers.	
IGNEOUS	Granite, Diorite, Gabbro, Syenite, , Dolerite, Trachyte, Andesite, Basalt.			
METAMORPHIC	Slate, Felsite, Gneiss, Schist, Quartzite			
SEDIMENTARY	Shale, Siltstone, Siltstone, Sandstone, Dolomite, Conglomerate, Tillite, Limestone.			