



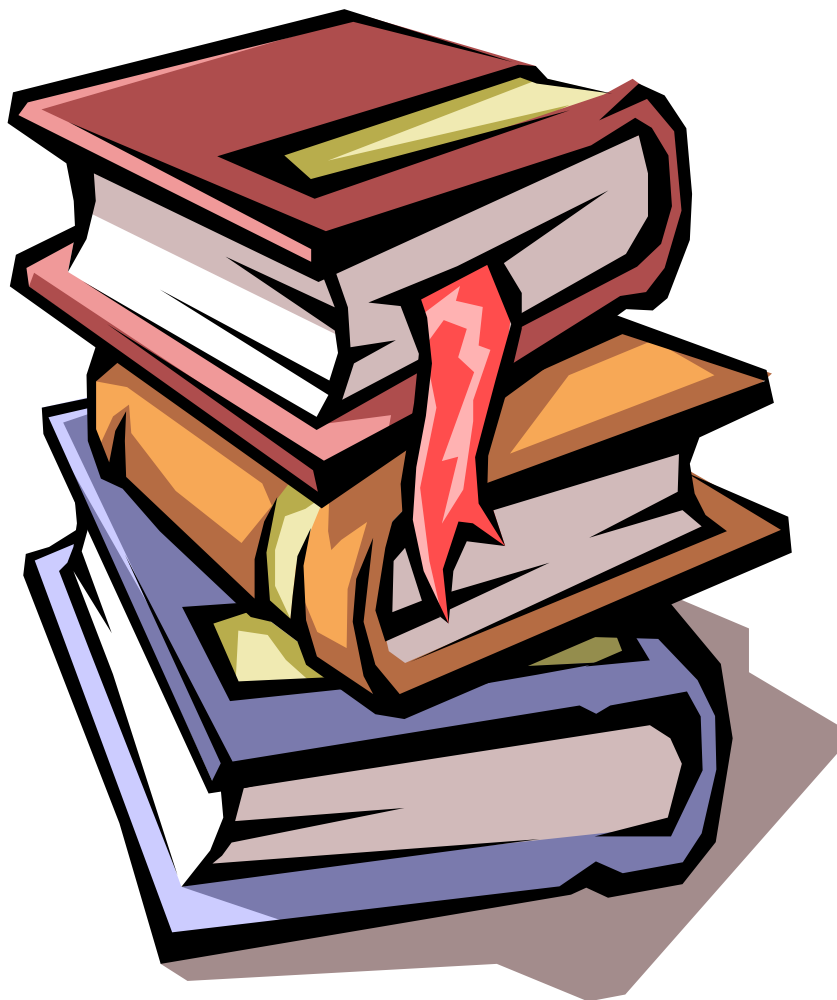
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## Unit Standard 22174

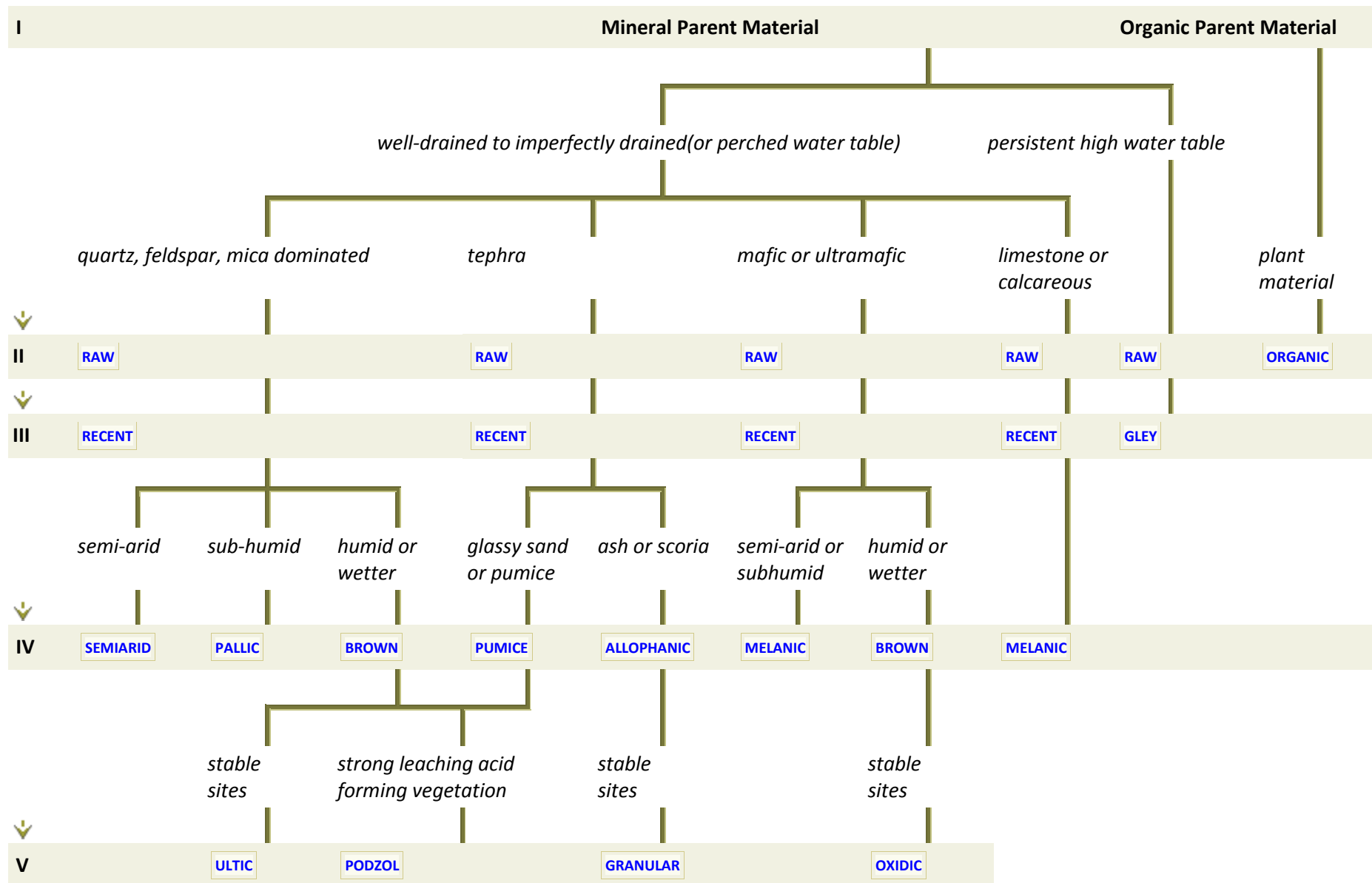
### Supplementary

### Readings





This flowchart taken from the soil portal shows the stages in soil production. Refer back to the Soil Classification segment and track the main soil categories back to their parent material.



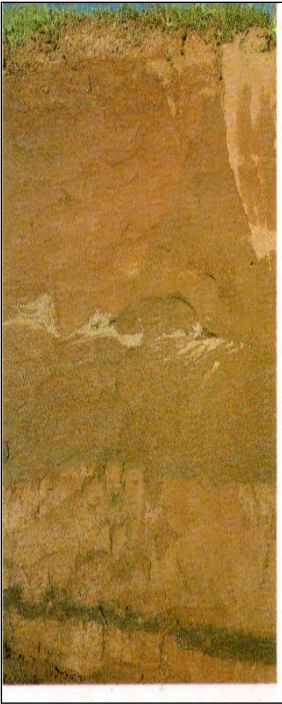



[http://soils.landcareresearch.co.nz/contents/SoilNames\\_NZSoilClassification\\_SoilFormation.aspx?currentPage=SoilNames\\_NZSoilClassification\\_SoilFormation&menuItem=SoilNames](http://soils.landcareresearch.co.nz/contents/SoilNames_NZSoilClassification_SoilFormation.aspx?currentPage=SoilNames_NZSoilClassification_SoilFormation&menuItem=SoilNames)

## Horizons in more Detail

Horizon Notation	Definition	Related diagnostic horizon or feature
<b>O</b>	Peat, accumulated under wet conditions	Peaty topsoil, organic soil material
<b>A</b>	Mineral horizon (topsoil) formed at the soil surface characterised by incorporation of humified organic matter	
<b>AH</b>	Topsoil undisturbed by ploughing	Distinct topsoil
<b>AP</b>	Topsoil disturbed by ploughing	Distinct topsoil
<b>E</b>	Horizon below the H, O, or A horizon that has lost clay, iron or aluminium (eluviated) leaving it relatively pale.	
<b>A/B</b>	Zone of mixing between A and B horizons, frequently caused by worms	
<b>B</b>	A mineral horizon that has been altered by the formation of soil structure, brighter colours (than horizons above or below), or by enrichment in mineral or organic material	
<b>Bw</b>	B horizon, altered by weathering, evidenced by contrast in colour or structure	Weathered -B horizon
<b>Bt</b>	B horizon enriched in clay	Argillic horizon
<b>Bh</b>	Dark B horizon enriched in humus	Podzolic-B horizon
<b>Bs</b>	B horizon enriched in oxides of iron, aluminium with humus	Podzolic-B horizon
<b>Bo</b>	B horizon enriched in kaolin-group clays with iron and aluminium oxides	Oxidic horizon
<b>Bg</b>	B horizon with mottled grey and yellow/orange colours indicative of reduction (gleying)	Mottled profile form, gley profile form, perch-gley features
<b>Br</b>	B horizon with strong reduction due to intense gleying and predominant grey colours.	Gley profile form, perch-gley features
<b>Bk</b>	B horizon enriched in calcium carbonate	Calcareous horizon
<b>Bc</b>	Transitional between B and C horizons	
<b>Bcx</b>	BC horizon that is compact but not cemented	Fragipan
<b>C</b>	Underlying unconsolidated material, usually showing some weathering but minimal biological activity	
<b>R</b>	Underlying bedrock	Lithic contact

[http://soils.landcareresearch.co.nz/contents/SoilNames\\_NZSoilClassification\\_SoilHorizons.aspx?currentPage=SoilNames\\_NZSoilClassification\\_SoilHorizons&menuItem=SoilName](http://soils.landcareresearch.co.nz/contents/SoilNames_NZSoilClassification_SoilHorizons.aspx?currentPage=SoilNames_NZSoilClassification_SoilHorizons&menuItem=SoilName)

## Examples of Soil Profiles

 <p>A vertical soil profile showing a reddish-brown top layer, followed by a lighter brown layer with some horizontal banding, and a dark brown/black layer at the bottom. A vertical scale on the left is marked with '0' at the top and '1' at the bottom.</p>	 <p>A vertical soil profile showing a reddish-brown top layer, followed by a greyish layer with a horizontal arrow pointing to it, and a layer of light-colored gravel and stones at the bottom.</p>
<p>Rangitaki soil. Recent Alluvial. This Profile shows layers of alluvial material deposited during floods. The black horizon at the bottom is made up of basalt deposits from the Tarawera eruption 1886 <b>Molloy (1988:59)</b></p>	<p>Te Anau soil. Glacial. The arrow points to a root mat situated about 45 cm from the soil surface. Roots would have great difficulty penetrating such a layer. <b>Molloy (1988:201)</b></p>
 <p>A vertical soil profile dug under a forest. It shows a dark topsoil layer with tree roots extending down into a reddish-brown layer, and a lighter brown layer at the bottom.</p>	 <p>A vertical soil profile showing a brown topsoil layer, a sharp boundary, and a yellowish ironpan layer below.</p>
<p>This soil profile is dug under a forest. Note the how the tree roots penetrate the different layers in order to find sustenance. Compare the horizon layers with the previous soil profile. <b>Dubbin (2001:40)</b></p>	<p>Lammerlaw Soil, Tussock Uplands, Note the sharp boundary between the brown topsoil and the yellowish ironpan, Can you think of factors which contributed to this distinction? How would it impact on different vegetation? <b>Molloy (1988:162)</b></p>