

SOIL ASSOCIATION MAP
TOWNSVILLE COASTAL PLAIN
 NORTHERN SECTION
 QUEENSLAND

SCALE 1:100,000

KILOMETRES 1 0 1 2 3 4 5 6 7 8 9 10 KILOMETRES

Soil Survey by
 G. G. MORTHA, CSIRO
 Division of Soils

CORAL SEA

HALIFAX BAY

MAGNETIC ISLAND

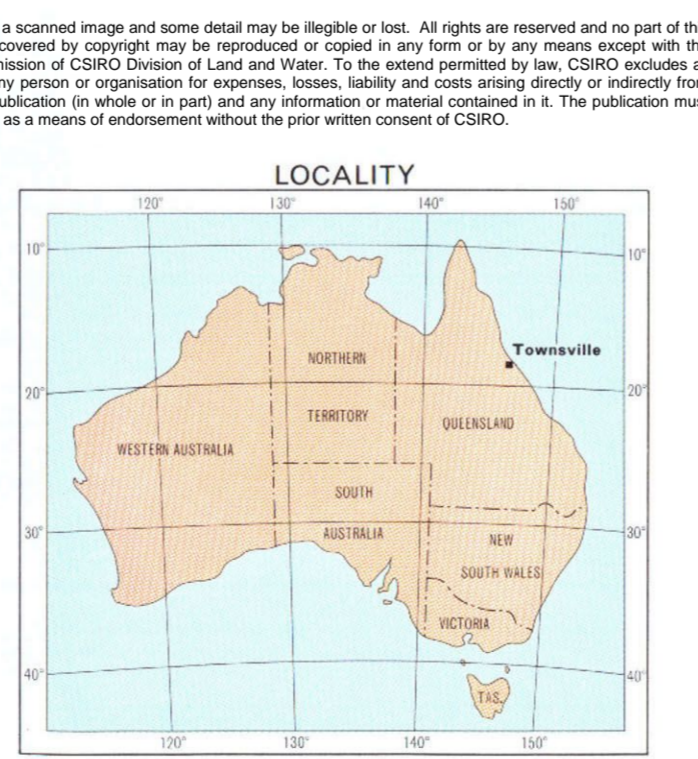
CLEVELAND BAY

TOWNSVILLE



LEGEND

SOIL ASSOCIATION	GREAT SOIL GROUP	P.P.F.*	MAJOR CHARACTERISTICS OF DOMINANT SOIL
1. SOILS OF THE BEACH RIDGES AND LITTORAL TOOLAKA			
Ta	Siliceous sand	Uc 1.21	Deep coarse sands, light brown or yellowish brown in colour.
Ja	Siliceous sand	Uc 4.21	Deep coarse sands, weakly developed A ₁ horizon overlying brown or yellowish brown B horizons.
Br	Grey clay	Ug 5.28	Strongly gleyed grey cracking clay overlying mottled subsoils.
Oo	Siliceous sand	Uc 2.23	Leached, deep coarse sands with deep A ₁ horizons overlying pale brown subsoils.
2. SOILS OF THE YOUNGER ALLUVIAL TERRACES, LEAVES, AND CHANNEL INFILL			
Bw	Red earth	Ga 2.14	Brown or grey-brown sandy loam A horizons overlying red sandy clay loam earthy B horizons.
Bo	Siliceous sand	Uc 4.24	Coarse sands with pale A ₁ horizon overlying yellowish brown subsoils. Water-worn gravels from 1.5-2 m.
Ct	Alluvial soil	Uc 1.21	Young alluvial soils with little profile development beyond surface accumulation of organic matter.
Yi	Yellow earth	Ga 2.24	Grey-brown sandy loam A horizons with slightly paler A ₂ horizons overlying mottled light brownish grey and yellowish brown sandy clay loam B horizons. Abrupt change at 40 to 70 cm to pedal heavy clay D horizon.
Ro	Yellow earth	Ga 2.24	Dark grey-brown sandy loam A horizons overlying brown sandy clay loam to sandy clay B horizons which grade to coarse water-worn gravels from 1-1.5 m.
Bl	No provision	Ga 2.42	Dark grey-brown sandy loam A horizons overlying brown sandy clay loam to sandy clay B horizons which grade to coarse water-worn gravels from 1-1.5 m.
Ac	Red podzolic	Ga 3.14	Dark brown or dark reddish brown sandy loam A horizons overlying dark red fine blocky structured sandy clay loam to light clay B horizons.
Ya	Red podzolic	Dr 2.22	Very dark grey-brown sandy loam A ₁ horizon and slightly paler A ₂ horizon overlying dark red blocky structured light-medium clay B horizons.
BY	Complex of Bluewater and Yileena series soils on braided infilled stream channels.		
YS	Complex of Bluewater and Yileena series soils on braided infilled stream channels.		
3. SOILS OF THE OLDER ALLUVIAL PLAIN, FANS, AND CHANNEL INFILL			
Gu	Siliceous sand	Uc 2.12	Coarse leached sands overlying coarse gravel from 10-60 cm depth.
Oc	No provision	Uc 4.24	Light grey-brown sandy loam A horizons overlying pale reddish brown sandy loam B horizons. Abrupt change at 50-60 cm to coarse ironstone gravels.
CA	No provision	Ga 2.74 Uc 2.21	Complex of Carinya series soils with thin grey-brown sandy A ₁ horizons and deep well developed A ₂ horizons overlying mottled sandy clay loam B horizons and coarse strongly leached sands of Argea series on infilled stream channels.
Wg	Yellow earth	Ga 2.64	Dark grey-brown loam A horizons overlying mottled yellow-brown and red clay loam to light clay B horizons. Abrupt change to pedal clay D horizons from about 80 cm.
Da	Solodic	Db 1.43	Strongly bleached silty loam A horizons 15-25 cm thick overlying dark yellowish brown coarse blocky structured heavy clay B horizons.
Bh	Solodic	Dy 2.33/4	This dark grey-brown sporadically bleached loam to clay loam A horizons overlying dark grey or dark grey-brown heavy clay B horizons.
Go	Solodic grey clay	Dy 2.33/5 Ug 5.28	Complex of solodic soils in the depressions and grey cracking clay soils on puffs.
Ni	Solodic	Dy 2.33/5	Grey-brown sporadically bleached fine sandy loam A horizons 18-25 cm thick overlying dark grey-brown or olive-grey heavy clay B horizons.
Pu	Solodic	Dy 2.43/5	Strongly bleached silty loam or fine sandy loam A horizons 12-20 cm thick overlying olive-grey coarse blocky structured heavy clay B horizons.
GF	Solodic-solodized	Dy 2.43/5	Complex of duplex soils with strongly bleached A horizons overlying olive-grey and dark grey-brown heavy clay B horizons.
La	Solodic	Dy 2.43/6	Deep strongly bleached fine sandy loam A horizons overlying light brownish grey medium clay B horizons.



LEGEND (CONTINUED)

SOIL ASSOCIATION	GREAT SOIL GROUP	P.P.F.*	MAJOR CHARACTERISTICS OF DOMINANT SOIL
3. (CONTINUED) SOILS OF THE OLDER ALLUVIAL PLAIN, FANS, AND CHANNEL INFILL			
Mo	Soloth	Dy 3.41/5	Strongly bleached fine sandy loam A horizons 15-20 cm thick overlying mottled light brownish grey and yellowish brown heavy clay B horizons.
Al	Soloth	Dy 3.41/6	Strongly bleached loamy sand or sandy loam A horizons 25-60 cm thick overlying mottled light brownish grey and yellowish brown heavy clay B horizons.
No	Solodic	Dy 3.42/6	Dark grey-brown silty loam A ₁ horizon and very strongly bleached A ₂ horizon overlying mottled light brownish grey and yellowish brown heavy clay B horizons.
Sa	Solodized solonetz	Dy 3.43/4	Very thin light brownish grey sandy loam A horizons overlying mottled dark greyish brown and yellowish brown heavy clay B horizons.
Qu	Solodized solonetz	Dy 3.43/4	Strongly bleached loamy sand or sandy loam A horizons to 10 cm thick overlying strong columnar structured grey-brown and yellowish brown heavy clay B horizons.
Ku	Solodized solonetz	Dy 3.43/5	Very strongly bleached, sandy loam to silty loam A horizons 15-25 cm thick overlying mottled grey-brown and yellowish brown heavy clay B horizons.
KW	Complex of duplex soils of Kulbarn series and yellow earths of Woodridge series.		
Sc	Solodic	Dy 3.43/2	Dark grey-brown sandy loam A ₁ horizon and bleached A ₂ horizon overlying mottled greenish brown and yellowish brown heavy clay B horizons.
Pa	Solodic	Dy 3.43/6	Strongly bleached fine sandy loam or silty loam A horizons 25-35 cm thick overlying mottled light brownish grey and yellowish brown medium to heavy clay B horizons.
Fr	Soloth	Dy 3.81/6	Very strongly bleached loamy sand A horizons 40-60 cm thick overlying cemented siliceous pan. Mottled massive sandy clays occur below the pan.
Co	Solodic	Dd 2.43	Strongly bleached fine sandy loam or loam A horizons to 10 cm thick overlying faintly mottled very dark greyish brown and olive heavy clay B horizons.
4. SOILS ON THE PIEDMONT SLOPES AND GENTLY UNDULATING UPLANDS			
Gr	Siliceous sand	Uc 2.21	Strongly leached coarse sands with white coloured or mottled yellowish red, yellow, or yellow-grey B horizons.
Hv	Red earth	Ga 2.14	Grey-brown loamy sand to sandy loam A horizons overlying red or yellowish red sandy clay loam to sandy clay B horizons.
Ba	Red earth	Ga 2.14	Dark grey-brown or dark reddish brown loam A horizons overlying dark red or yellowish red clay loam B horizons.
Lg	Red earths	Ga 2.15	Grey-brown sandy loam A horizons overlying dark red sandy clay loam massive B horizons.
Pp	Yellow earths	Ga 2.24	Light grey-brown sandy loam A horizons overlying yellowish brown sandy clay loam B horizons.
Ci	Yellow earth	Ga 2.24	Grey-brown loamy sand or sandy loam A horizons overlying reddish yellow sandy clay loam B horizons which grade to coarse gravels from 1-1.5 m.
St	Yellow earth	Ga 2.74	Dark grey-brown loamy sand A ₁ horizon and bleached A ₂ horizon overlying mottled yellow-brown and yellowish red sandy clay loam B horizons.
Pi	No provision	Ga 2.94	Strongly bleached sandy loam A horizons overlying mottled light brownish grey and brownish yellow sandy clay loam B horizons.
Fl	No provision	Ga 2.94	Strongly bleached loamy sand A horizons overlying mottled yellow-brown and yellowish red sandy clay loam B horizons.
Wa	Red podzolic	Dr 2.21	Very dark grey-brown strong loam A horizons to 12 cm thick overlying dark red strong fine blocky structured medium clay B horizons.
Pm	Yellow podzolic	Dy 3.22/5	Dark grey sandy loam A ₁ and slightly paler A ₂ horizon overlying mottled yellowish brown and yellowish red coarse blocky structured heavy clay B horizons.
He	Soloth	Dy 3.41/5	Strongly bleached sandy loam A horizons 20-24 cm thick overlying mottled brownish grey and yellowish red coarse medium or heavy clay B horizons.
He	Solodic	Dy 3.43/6	Strongly bleached sandy loam A horizons 20-40 cm thick overlying mottled brownish grey and yellowish brown heavy clay B horizons.
5. SOILS OF THE HILLY AND MOUNTAINOUS LANDS			
MOUNTAINOUS AREA			
M1			Shallow to deep uniform sands (Uc 1.21), (Uc 4.22), and coarse sandy earths (Gn 2.14), (Gn 2.24).
M2			Acid yellow duplex soils (Dy 3.21), (Dy 3.41) and lesser coarse sands (Uc 2.1), (Uc 2.21), and (Uc 4.2).
MISCELLANEOUS UNITS			
Mg			GULLIED LANDS
Sp			SALT PANS
Ra			RECLAIMED LAND

* Principal Profile Forms
 ** As in Dy 2.33/4 refers to value chroma rating of A₁ horizon and total depth of A horizons, as explained in Chapter III of the accompanying publication.