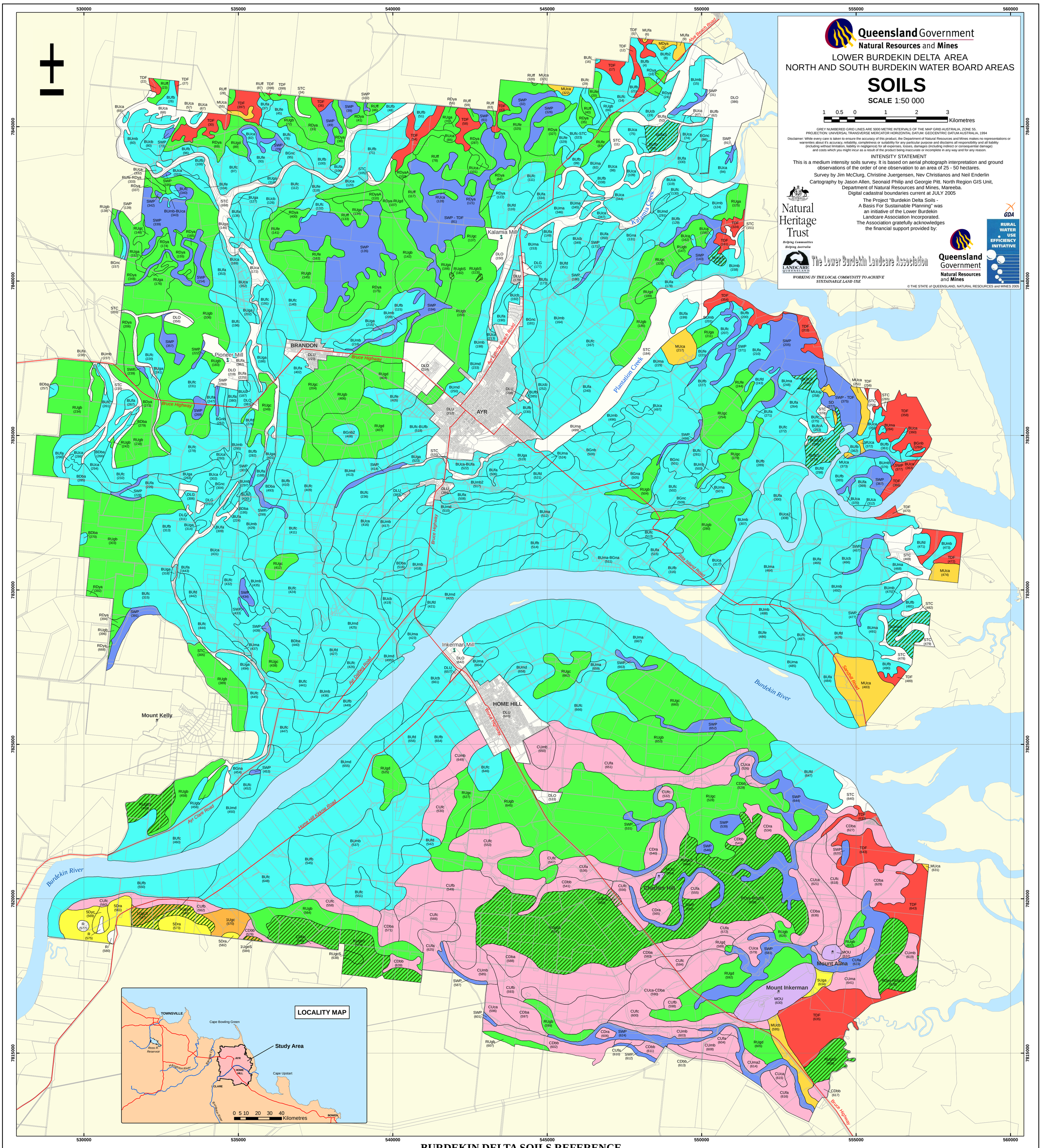

BURDEKIN DELTA SOILS REFERENCE

SOILS OF THE CURRENT ALLUVIUM ASSOCIATED WITH MAJOR DISTRIBUTARY CHANNELS (Landscape Unit B)

Map Unit Code ˣ	Soil Type Affiliation*	Major Attributes of the Dominant Soil.	Australian Soil Classification +	Great Soil Group ++	Main Principal Profile Forms †
CHANNEL BENCHES, SCROLLS OR SCROLL PLAINS					
BUca	6Ucc	0.2 - 0.3m black to brown sand to fine sandy loam, over brown sand to fine sandy loam to 0.9 - 1.5+m, over yellow sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Orthic Tenosol Stratic Rudosol	Siliceous sand Alluvial soil	Uc5.11, Uc5.21, Uc6
BUcb	6Ucc	0.4 - 0.8m black sand to fine sandy loam, over brown sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black - Orthic Tenosol Stratic Rudosol	Siliceous sand Alluvial soil	Uc6, Uc5.11, Uc5.21
LEVEES, FLOODOUTS OR BACKPLAINS					
BUma		0.2 - 0.5m black to grey loam to clay loam, fine sandy, over brown layered D horizons sand to clay loam, fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Tenosol Black or Brown Kandosol	No suitable group	Um5.52, Um1.2, Um1.4
BUmb		0.2 - 0.5m black to grey or brown loam to clay loam, fine sandy, over brown loam to clay loam, fine sandy to 0.5 - 1.2m, over brown sand to fine sandy loam 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Kandosol Black or Brown Dermosol	No suitable group	Um5.52 Um6.12
BUmd	6Uma	0.2 - 0.5m black to grey or brown loam to clay loam, fine sandy, over brown loam to clay loam, fine sandy to 1.2 - 1.5+m, over brown sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Kandosol Black or Brown Dermosol	No suitable group	Um5.52 Um6.12
BDba		0.3 - 0.6m black sandy clay loam to clay loam, fine sandy, over brown to red fine sandy light to light medium clay to 0.6 - 1.2m over brown to yellow sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Kandosol Black or Brown Dermosol	No suitable group	Db1.12 Dr2.12
BDya		0.2 - 0.4m black clay loam, occasionally bleached, over black to grey fine sandy light to medium clay to 0.4 - 0.8m, over brown sandy clay loam to light medium clay to 1.5+m. Neutral or Alkaline Soil Reaction Trend.	Black Dermosol Grey Chromosol Grey Sodosol	No suitable group Solodic - solonized solonetz	Dd1.22, Dd1.33, Dy2.13, Dy2.43
BUfa		0.5 - 1.0 m black to brown fine sandy light to light medium clay, over brown, occasionally yellow, sand to fine sandy loam to 1.5+ m. Neutral Soil Reaction Trend.	Black Kandosol Black Dermosol	No suitable group	Uf6.71, Uf6.7, Uf6.2
BUfb	6Ufd	0.2 - 0.6m black fine sandy light to light medium clay, over brown fine sandy light to light medium clay to 0.6 - 1.1m, over brown, occasionally yellow, fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Dermosol	No suitable group	Uf6.21, Uf6.31, Uf6.23, Uf6.22
BUfc		0.3 - 0.7m black fine sandy light to light medium clay, over black to brown fine sandy light to light medium clay to 1.2 - 1.5+m, over brown, occasionally yellow, fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Dermosol	No suitable group	Uf6.31, Uf6.21, Uf6.22, Uf6.23
BUfd		0.2 - 0.6m black to brown fine sandy light to light medium clay, over brown, occasionally yellow, fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown Dermosol Black or Brown Kandosol	No suitable group	Uf6.71, Uf6.31, Uf6.22
BUfe	6Ufb 6Ufc	0.3 - 0.7m black fine sandy light to light medium clay, over black to brown fine sandy light to light medium clay to 1.2 - 1.5+m, over brown, occasionally yellow fine sand to fine sandy loam to 1.5+m. Alkaline Soil Reaction Trend.	Black or Brown Dermosol	No suitable group	Uf6.21, Uf6.22, Uf6.32, Uf6.33
BGna	6Gnd	0.2 - 0.6m black sandy clay loam to clay loam, fine sandy, over brown fine sandy light to light medium clay to 1.2 - 1.5+m, over brown fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Brown Kandosol	No suitable group	Gn3.22, Gn2.42
BGnb		0.2 - 0.5m black sandy clay loam to clay loam, fine sandy, over brown fine sandy light clay to 0.75 - 1.2m, over brown fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Brown Dermosol	No suitable group	Gn3.22, Gn2.42
BGnc		0.2 - 0.5m black sandy clay loam to clay loam to clay loam, fine sandy, over brown sandy clay loam to clay loam sandy to 0.5 - 1.1m, over brown, occasionally yellow, fine sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Brown Dermosol	No suitable group	Gn2.42
CHANNEL BENCHES, DRAINAGE DEPRESSIONS					
BUga		0.2-0.4 m black light medium to medium clay, over mottled black to grey or brown light to medium clay to 0.6 – 1.5+ m, over layered D horizons of coarse sands to medium clay, often gravely throughout. Neutral or alkaline Soil Reaction Trend.	Black or Grey Vertosol	Black earth Grey clay	Ug5.16, Ug5.17, Ug5.1, Ug5.24

SOILS OF THE CURRENT ALLUVIUM ASSOCIATED WITH MINOR STREAM CHANNELS (Landscape Unit C)

Map Unit Code ˣ	Soil Type Affiliation*	Major Attributes of the Dominant Soil.	Australian Soil Classification +	Great Soil Group ++	Main Principal Profile Forms †
LEVEES, FLOODOUTS OR BACKPLAINS					
CUca		0.25 - 0.9m black to brown sand to sandy loam, over brown sand to sandy loam to 1.2 - 1.5+m, over yellow to red clayey sand to clay loam, fine sandy to 1.5+m. Neutral Soil Reaction Trend.	Black or Brown - Orthic Tenosol Stratic Rudosol	Siliceous sand Alluvial soil	Uc5.23, Uc5.21
CUma		0.3 - 0.4m black to brown sandy clay loam to clay loam, over layered, brown clayey sand to clay loam, fine sandy to 1.5+m. Neutral Soil Reaction Trend.	Stratic Rudosol	Alluvial soil	Uc5, Um5
CUfa		0.2 - 0.5m black to grey fine sandy clay, over brown to red fine sandy clay to light medium clay to 0.7 - 1.1m, over layered, brown to yellow sand to clay loam, fine sandy to 1.5+m. Neutral Soil Reaction Trend.	Brown or Red Dermosol	No suitable group	Uf6.31, Uf6.33
CUfb		0.4 - 0.6m black to grey fine sandy clay to light medium clay, over brown to red or yellow fine sandy clay to light medium clay to 1.1 - 1.5+m, over brown sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Brown or Red Dermosol	No suitable group	Uf6.31, Uf6.34
CUfc		0.3 - 0.6m black fine sandy clay to light clay, over brown to yellow fine sandy clay to light medium clay to 0.8 - 1.35m, over brown to yellow loamy fine sand to clay loam, fine sandy to 1.5+m. Alkaline to strongly alkaline below 0.6 - 0.9m.	Brown Dermosol	No suitable group	Uf6.33, Uf6.31, Uf6.34
CUmb		0.3 - 0.6m black sandy clay loam to clay loam, fine sandy, over brown clay loam, fine sandy to 0.9 - 1.3m, over layered, brown fine sand to fine sandy clay to 1.5+m. Neutral Soil Reaction Trend.	Stratic Rudosol	Alluvial soil	Um5.52
CDba	6Dbf	0.3 - 0.5m dark clay loam, fine sandy, over brown light medium clay to 0.9 - 1.4m, over brown to orange sand to fine sandy clay to 1.5+m. Neutral Soil Reaction Trend.	Brown Chromosol	Brown podzolic soil	Db1.12, Dy2.12
CDbb	6Dyg	0.12 - 0.25m black clay loam, fine sandy, bleached, over grey to brown light medium to medium heavy clay to 1.0 - 1.1m, over yellow to brown fine sand to fine sandy clay to 1.5+m. Strongly alkaline at and below 0.6m.	Brown or Grey Chromosol	No suitable group	Db1.43, Dy2.43
CDra	6Dra	0.3 - 0.5m black to brown fine sandy loam to sandy clay loam, over red sandy clay, massive to moderately structured, to 0.7 - 1.0m, over brown to yellow loamy sand to fine sandy loam to 1.5+m. Neutral Soil Reaction Trend.	Red Chromosol	Red podzolic soil	Dr4.52, Dr2.52, Dr2.22

SOILS OF THE RELICT ALLUVIUM ASSOCIATED WITH LOW LYING FLATS (Landscape Unit R)

Map Unit Code ˣ	Soil Type Affiliation*	Major Attributes of the Dominant Soil.	Australian Soil Classification +	Great Soil Group ++	Main Principal Profile Forms †
PRIOR STREAMS					
RUca		0.7 - 1.2m black sand to sandy loam, over brown sand to sandy loam to 1.5+m. Acid to Neutral Soil Reaction Trend.	Stratic Rudosol	Siliceous sand	Uc5.11
PLAINS					
RUfe		0.1 - 0.3m black fine sandy clay to light medium clay, over black to grey or brown fine sandy to medium clay to 0.7 - 1.5+m, over mottled brown to yellow sand to clay loam, fine sandy to 1.5+m. Alkaline Soil Reaction Trend.	Black or Grey or Brown Dermosol	No suitable group	Uf6.32, Uf6.33, Uf6.31
RUff	2Ugj	0.1 - 0.2m black light to light medium clay, frequently bleached, over brown, grey or black light medium to medium clay to 0.4 - 0.9m, over yellow (jarositic) and orange mottled grey loamy sand to medium clay to 1.5+m. Acid Soil Reaction Trend.	Redoxic Hydrosol	No suitable group	Uf6.31, Uf3, Uf6.33, Uf6.32
RUga		0.1 - 0.2m black to grey light to medium clay, occasionally bleached, black to grey light medium to medium heavy clay to 0.7 - 1.3 m, over yellow (jarositic) and orange mottled coarse loamy sand to medium clay to 1.5+m.	Black or Grey Vertosol	Grey clay Black earth	Ug5.16, Ug5.15, Ug5.24, Ug3.2
RUgb		0.1 - 0.35m grey to black light to medium clay, over grey to black medium to medium heavy clay to 0.4 - 1.0m, over mottled grey to brown medium to medium heavy clay to 1.5+m. Profile alkaline by 0.6m.	Black or Grey Vertosol	Grey clay Black earth	Ug5.24, Ug5.28, Ug5.16, Ug5.29
RUgc		0.1 - 0.2m black to grey light to medium clay, over black to grey or brown light medium to medium heavy clay to 0.5 - 1.0m, over mottled brown to yellow sand to mottled grey light medium clay layers to 1.5+m. Neutral or Alkaline Soil Reaction Trend.	Black or Grey Vertosol	Black earth Grey clay	Ug5.17, Ug5.2
RUgd		0.1 - 0.35m black to grey light to medium clay, over mottled, black to grey or brown medium to medium heavy clay to 1.5+m. Profile alkaline at or below 0.9m, or Neutral Soil Reaction Trend.	Black or Grey Vertosol	Black earth Grey clay	Ug5.16, Ug5.24, Ug5.28
SLIGHTLY ELEVATED FLATS					
RDya	3Dya	0.1 - 0.2m black to grey, bleached, mottled, clay loam, over black to grey light medium to medium clay to 0.4 - 0.8m, over mottled grey to brown light medium to medium clay to 1.5+m. Strongly alkaline from 0.3 - 0.6m.	Black or Grey Sodosol	Solodic soil - solodized solonetz	Dd1.43, Dy2.33, Dy2.43
LOCAL ALLUVIAL PLAINS AND ASSOCIATED PEDIMENTS (Landscape Unit 1)					
1Ugc	Barrunga	0.08 - 0.15m black, mottled, frequently bleached, light to light - medium clay, over alkaline black to grey, medium to heavy clay to 1.5+m.	Black or Grey Vertosol	Black Earth (bleached) black earth (bleached) grey clay	Ug5.16, Ug3.1, Ug3.2
1Uge	Lingilor	0.05 - 0.15m grey to black light to medium clay, over strongly alkaline grey to black medium clay to 0.4 - 0.7m, over grey to brown or yellow medium clay to 1.5+m.	Black or Grey Vertosol	Grey clay - black earth	Ug5.24, Ug5.28, Ug5.16

SOILS OF THE UNDULATING RISES ON AN INTRUSIVE ROCK COMPLEX (Landscape Unit 5)

Map Unit Code ˣ	Soil Type Affiliation*	Major Attributes of the Dominant Soil.	Australian Soil Classification +	Great Soil Group ++	Main Principal Profile Forms †
NO FIXED SLOPE POSITION					
5Uga	Wygong	0.05 - 0.12m black medium to heavy clay, over alkaline black to grey medium to heavy clay to 0.7 - 1.0m, over decomposing rock.	Black Vertosol	Black earth	Ug5.12, Ug5.14
CRESTS, UPPER AND MID SLOPES					
5Dra	Dalrymple	0.1 - 0.2m black to brown clay loam, over acid to neutral red medium clay to 0.7 - 1.2m, over decomposing rock.	Red Chromosol	Non - calcic brown soil	Dr2.12, Dr2.11
LOWER SLOPES					
5Dyc	Ranly	0.1 - 0.2m mottled black to brown sandy clay loam to clay loam, over bleached sandy clay loam to clay loam to 0.15 - 0.3m, over alkaline grey medium clay to 0.4 - 1.2m, over grey to brown medium clay to 0.8 - 1.5+m, over decomposing rock or colluvia.	Grey Sodosol	Solodic soil - solodized solonetz	Dy2.33, Dy2.43

SOILS OF THE CURRENT TIDAL FLATS (Landscape Unit M)

Map Unit Code ˣ	Soil Type Affiliation*	Major Attributes of the Dominant Soil.	Australian Soil Classification +	Great Soil Group ++	Main Principal Profile Forms †
BEACH RIDGES					
MUca		0.2 - 0.3m brown to black fine sand to sandy loam, over brown to yellow fine sand to fine sandy loam to 1.5+m. Slightly acid to Neutral Soil Reaction Trend.	Stratic Rudosol Brown - Orthic Tenosol	Siliceous sand	Uc1.23, Uc5.11
MUcb		0.3 - 0.5m brown fine sandy loam, over red fine sandy loam to fine sandy clay loam to 1.5+m. Neutral Soil Reaction Trend.	Red or Brown - Orthic Tenosol	Siliceous sand	Uc5.11
TIDAL FLATS					
MDya		0.12m brown clay loam, bleached, over mottled, brown medium clay to 0.25m, over mottled dark greyish-yellow medium clay to 0.95 m, over mottled grey medium clay to 1.25m, over mottled grey loamy sand to 1.5+m. Strongly alkaline at or below 0.6m.	Extratidal Hydrosol	Solonchak	Dy3.43
MUfa		0.2m black silty clay to light clay, occasionally bleached, over mottled grey or brown medium clay to 0.65 - 1.1m, over mottled grey medium clay to 1.1m, over yellow mottled grey medium clay or loam, fine sandy to 1.5+m.	Extratidal Hydrosol	Solonchak	Uf3, Uf6.33

OTHER MAPPING UNITS:

- DLG Disturbed land, gravel pits.
- DLO Disturbed land, other.
- DLU Disturbed land, urban.
- STC Stream channel.
- R Areas of rock outcrop.
- MOU Mountains.
- SWP Swamps.
- TDF Tidal flats.
- SD Sand dunes.

VARIANTS AND PHASES (SUFFIXES)

- 2 Soil profile has D horizons of contrasting or coarser soil texture, which are not defined in the modal soil type description.
- A Acid Sulfate Soil layers by 1.5 m, which are not defined in the modal soil type description.
- S Saline phase of soil type.

ˣ MAPPING UNIT CODE EXPLANATION

Example Code: BUca

- **B** Landscape Unit
- **Uc** Subdivision of the Primary Profile Form (Northcote, 1971)
- **a** Distinguishes a modal soil type within the same primary profile form subdivision and landscape unit.

MISCELLANEOUS

- * Soil Type name as defined in Loi et al (1994).
- + After Isbell (2003). "The Australian Soil Classification."
- ++ After Stace et al (1968). "A Handbook of Australian Soils."
- † Principal Profile Form (Northcote, 1971).
- (111) Unique map area (UMA) number.

Notes:

1. Within areas of intense soil variability, the mapping unit is a soil complex and is named after the two most frequently occurring soil types. For example BUfa-BUfb.
2. Variants and phases of soil types may occur, for example RUgcS. Such mapping units are described by the major attributes of the model soil type modified by the description of the variant or phase concerned. Variants and phases are described separately in the reference.

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