

# WGL Wongolina Land System

**Area:** 61 km<sup>2</sup>

**Landscape:** Plains, south of Kingston, adjoining the Noolook Land System, formed on calcreted marine sediments, with occasional swamps.

**Annual rainfall:** 600 – 675 mm average

**Geology:** Lacustrine deposits of the Pleistocene Padthaway Formation

**Main soils:**

- B2** Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol) (30%)
- B5** Shallow dark clay loam on limestone (Petrocalcic Black-Grey Dermosol) (16%)
- B8** Shallow bleached sand on calcrete (sandy Petrocalcic Rudosol-Tenosol) (14%)

**Minor soils:**

- RR** Bare calcrete (9%)
- B3** Shallow sandy loam on calcrete (Petrocalcic Red Tenosol-Kandosol-Rudosol) (6%)
- G3** Thick sand over clay (sandy Brown-Red Chromosol-Sodosol) (5%)
- B7** Shallow sand over clay on calcrete (sandy Petrocalcic Sodosol-Chromosol) (5%)
- N2** Saline soil (Salic-Hypersalic Hydrosol) (4%)
- B6** Shallow loam over red-brown clay on calcrete (Petrocalcic Red Chromosol-Kandosol) (4%)

**Summary:** The soils are generally fertile, but are also shallow over calcrete and poorly drained. Some saline areas occur.

## Soil Landscape Unit summary: Wongolina Land System (WGL)

SLU	% of area	Component	Main soils	Prop#	Notes
MCA	12.6	Plain	B6B3 B8	D	Plains with shallow sand, mostly over red clay, on calcreted calcarenite; but often shallow bleached sand on calcrete; 10-30% bare calcrete.  Main soils: <u>Shallow sandy loam over red-brown clay on calcrete</u> - <b>B6</b> , <u>Shallow sandy loam on calcrete</u> - <b>B3</b> and <u>Shallow sand on calcrete</u> - <b>B8</b> .
NBG	5.7	Depression	B2RR	D	<b>NBG</b> Drainage depressions with shallow dark grey calcareous sandy clay loam on calcrete; or bare calcrete.  Main soils: <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Rock or exposed calcrete</u> - <b>RR</b> .
NBu	7.7	Plain	N2B5	V	Plains with mostly saline dark grey cracking clay on calcrete. 20-30% salt pans with saline clays. 10-20% lunettes with deep calcareous clay loam, gypseous at depth; or shallow grey clay loam grading to clay on calcrete.  Main soils: <b>Plains:</b> <u>Wet saline clay loam</u> - <b>N2c</b> and <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <b>Salt pans:</b> <u>Wet saline clay loam</u> - <b>N2c</b> . <b>Lunettes:</b> <u>Gypseous calcareous loam</u> - <b>A8</b> .
		Salt pan	N2	C	
		Lunette	A8	L	
NIA	9.7	Plain	G3B7	D	Plains with deep sand over brown or grey clay, or often shallow sandy loam over poorly structured brown or grey clay on calcrete.



					Main soils: <u>Thick sand over clay</u> - <b>G3</b> , <u>Sand over friable brown clay on calcrete</u> - <b>B7</b> .
NMG	1.0	Depression	B7N3	D	Drainage depressions with often wet, shallow sandy loam over poorly structured brown or grey clay on calcrete. Main soils: <u>Sand over friable brown clay on calcrete</u> - <b>B7</b> and <u>Wet clay loam</u> - <b>N3</b> .
OLD	0.2	Low dune	H2	D	Low dunes with water repellent deep calcareous siliceous sand; 10-30% shallow bleached sand, often over poorly structured brown or grey clay, on calcrete. Main soils: <u>Deep brown sand</u> - <b>H2</b> .
VfA	0.2	Stony rise	B8RR	D	VfA Very gently undulating stony plain and rises with shallow bleached sand on calcreted marine limestone, or bare calcrete. VfP Flats with very shallow calcareous loam on calcreted marine limestone, or shallow bleached sand over calcrete. Main soils: <b>Stony rises:</b> <u>Shallow sand on calcrete</u> - <b>B8</b> , <u>Shallow loam on calcrete</u> - <b>B3</b> and <u>Rock or exposed calcrete</u> - <b>RR</b> . <b>Flats:</b> <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Shallow sand on calcrete</u> - <b>B8</b> .
VfP	21.3	Flat	B2B8	V	
		Stony rise	B3B8	L	
ViA	0.5	Low sandy rise	H2B8	D	Low sandy rises with deep calcareous siliceous sand and shallow bleached sand on calcreted marine limestone. Main soils: <u>Deep brown sand</u> - <b>H2</b> and <u>Shallow sand on calcrete</u> - <b>B8</b> .
VjA	2.0	Plain	B2B3	D	Plains with shallow, mostly calcareous, grey clay loam on calcreted marine limestone. Main soils: <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Shallow loam on calcrete</u> - <b>B3</b> .
VnA	11.9	Plain	B5B2	D	VnA Plains with shallow dark grey clay loam, mostly over dark grey clay, on calcreted marine limestone. VnP Plains with shallow, often calcareous dark grey clay loam, mostly over dark grey clay on calcreted marine limestone. 20-30% stony rises with shallow calcareous loam on calcrete. 10-20% depressions with soils as for plains often wet. Main soils: <b>Plains:</b> <u>Shallow dark clay loam on limestone</u> - <b>B5</b> and <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> . <b>Stony rises:</b> <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> . <b>Depressions:</b> <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> , <u>Shallow dark clay loam on limestone</u> - <b>B5</b> and <u>Wet clay loam</u> - <b>N3</b> .
VnP	22.6	Plain	B5B2	V	
		Stony rise	B2	C	
		Depression	B2B5 N3	L	
XOA	1.5	Plain	B2N3	D	Poorly drained plains with shallow, often wet, calcareous, grey clay loam on calcrete. Main soils: <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Wet clay loam</u> - <b>N3</b> .
Xuf	2.4	Swamp	N3	V	Swamps with non-peaty wet dark organic clay loam soils; 10-30% water filled or with shallow dark clay loam over dark clay on calcrete. 20-30% stony plains with shallow, mostly calcareous, grey loam, occasionally over dark grey clay, on calcrete; 10-30% bare calcrete. Main soils: <b>Swamps:</b> <u>Wet clay loam</u> - <b>N3</b> . <b>Stony plains:</b> <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Shallow sandy loam on calcrete</u> - <b>B3</b> .
		Stony Plain	B2B3	C	
ZT-	0.7	Swamp	N2N3	V	Swamps with highly to moderately saline sandy loam over dark clay. 20-30% dunes with deep calcareous sand. Main soils: <b>Swamps:</b> <u>Wet saline clay loam</u> - <b>N2c</b> and <u>Wet clay loam</u> - <b>N3</b> . <b>Dunes:</b> <u>Shell sand</u> - <b>H1</b> .
		Dune	H1	C	



# PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)

### Detailed soil profile descriptions:

- A8** Gypseous calcareous loam (Gypseous Calcarosol)  
Calcareous soil with a Gypsic horizon (>20% visual gypsum in a horizon which is at least 10 cm thick). Found on lunettes, flats, etc.
- B2** Shallow calcareous sandy loam on calcrete (Petrocalcic Calcarosol)  
Up to 40 cm calcareous loamy sand to sandy loam with variable calcrete rubble overlying calcreted calcarenite - rises.
- B3** Shallow sandy loam on calcrete (Petrocalcic Rudosol)  
Medium thickness non calcareous sandy loam, often having a slight clay increase with depth, over calcreted calcarenite shallower than 50 cm - rises.
- B5** Shallow dark clay loam on limestone (Petrocalcic, Black Dermosol)  
Black clay loam to light clay over calcreted limestone at shallow depth, grading to highly calcareous clay - flats.
- B6** Shallow sandy loam over red-brown clay on calcrete (Petrocalcic, Red Kandosol)  
Medium thickness sandy loam with slight ironstone gravel overlying a weakly structured reddish brown sandy clay on calcarenite within 50 cm - rises.
- B7** Shallow sand over sandy clay on calcrete (Petrocalcic, Brown Chromosol)  
Medium thickness sand overlying brown friable sandy clay to clay on limestone or calcreted sandy clay within 50 cm - flats.
- B8** Shallow sand on calcrete (Petrocalcic, Bleached-Leptic Tenosol)  
Thick bleached sand over calcreted calcarenite within 50 cm - rises.
- G3** Thick sand over clay (Hypercalcic, Brown Sodosol/ Chromosol)  
Thick bleached sand with an organically darkened surface abruptly overlying a massive to coarsely structured brown to reddish yellow sandy clay to clay, calcareous with depth - rises.
- H1** Shell sand (Shelly Rudosol)  
Very thick shell sand with no profile development other than slight organic darkening at the surface.
- H2** Siliceous sand (Sandy Calcarosol-Tenosol)  
Deep to moderate depth calcareous siliceous sand. Often with non-calcareous topsoil; can be non calcareous throughout. Sometimes the subsoil is a light sandy loam.
- N2c** Wet saline clay loam (Dermosolic, Salic Hydrosol)  
Medium thickness dark grey to black clay loam to clay grading to a well structured dark grey clay with minor carbonates and a water table within 100 cm.
- N3** Seasonally waterlogged, non to marginally saline equivalents of soils listed above, viz.:
- N3d** Wet **B5**
  - N3e** Wet **B7**
  - RR** Bare rock.

**Further information:** [DEWNR Soil and Land Program](#)

