

LAM Lameroo Land System

(Based on the description by A. K. McCord in "A Description of Land in the Southern Mallee of South Australia")

Plains between Parilla and Wilkawatt

Area: 217.4 km²

Annual rainfall: 350 – 380 mm average

Geology: The System is underlain by Blanchetown Clay equivalent, forming a virtually continuous sheet over the older Loxton / Parilla Sands. Clay thickness averages 400 cm, although in places it is absent. Minor areas are covered by wind blown Molineaux Sands.

Topography: The landscape is flat to very gently undulating with about 3% of the land surface occupied by low to moderate rounded east - west oriented sandhills.

Elevation: 90 - 100 m

Relief: Up to 8 m

Soils: The land comprises predominantly texture contrast soils with sandy, loamy or clay loamy surfaces over dispersive clayey subsoils. Deep sands on sandhills are minor overall.

Main soils

Sandy flats

G4 Sand over dispersive clay

Heavy flats

F2a Sandy loam over dispersive brown clay.

F2b Clay loam over dispersive brown clay

Minor soils

Sandhills

H3 Deep bleached sand

Main features: The Lameroo Land System is a flat to very gently undulating plain with minor sandhills. The plains are underlain within a metre and often at much shallower depths by Blanchetown Clay. The soils all have dispersive clayey subsoils but variable surface soils - sandy (45%), loamy (30%) or clayey (25%). The latter are often cracking. The more clayey soils are naturally fertile, but may be difficult to work. The sandy soils are lower in fertility and prone to water repellence and wind erosion. All soils are susceptible to temporary waterlogging after heavy rain, and boron toxicity is widespread. Salinity levels are generally moderately low, but wet depressions may have higher salt accumulations. These do not appear to be associated with regional watertables. Overall dryland cropping potential is high, but irrigation potential is low.



Soil Landscape Unit summary: 4 Soil Landscape Units (SLUs) mapped in the Lameroo Land System:

SLU	% of area	Main features #
HeA HeK HfA	10.6 80.1 8.2	<p>Flats formed on Blanchetown Clay, with up to 30% low sandhills and sporadic wet and marginally saline depressions. There are areas of cracking soils and gilgai microrelief where Blanchetown Clay is near or at the surface.</p> <p>HeA Flats with less than 10% sandhills. HeK Flats with less than 10% sandhills and up to 10% wet marginally saline depressions. HfA Flats with 10-30% low sandhills.</p> <p>Main soils: <u>sand over dispersive clay</u> - G4 (E), <u>sandy loam over dispersive brown clay</u> - F2a (C) and <u>clay loam over dispersive brown clay</u> - F2b (C), with <u>deep bleached sand</u> - H3 (M-C) on low sand rises. The soils of the flats fall into three categories. The sand over clay classes are the least fertile, but have the advantage of being more easily worked, and the drawbacks of a water repellent surface and wind erosion potential. The clay loamy types are heavy soils with high natural fertility, but prone to waterlogging because of the clayey texture throughout. The loam over clay types are intermediate between the other two. All soils have impeded deep drainage due to the Blanchetown Clay within a metre of the surface (and much closer in the clayey types). This means that boron has not been leached, so toxicity problems can be expected in sensitive crops. All soils have dispersive subsoils so temporary waterlogging can be expected after heavy rain. Irrigation potential of the flats is moderately low due to the combination of dispersive subsoils and impeded deep drainage. The areas with wet depressions are marginally saline and are even less suitable for irrigation. Generally the flats are potentially highly productive for dryland cropping but not suited to irrigated uses. The sandy rises are characterized by deep infertile soils prone to water repellence and wind erosion.</p>
OIJ	1.1	<p>Dunefields of low parallel sandhills covering 30-60% of the land surface, with intervening flats or swales similar to the broader flats of HeK.</p> <p>Main soils: <u>deep bleached sand</u> - H3 (E) on sandhills, with <u>sand over dispersive clay</u> - G4 (C), <u>sandy loam over dispersive brown clay</u> - F2a (L) and <u>clay loam over dispersive brown clay</u> - F2b (L) on flats and swales. The sandhill soils are deep but infertile and susceptible to water repellence and wind erosion. The intervening flats are as described above.</p>

PROPORTION codes assigned to soils within Soil Landscape Units (SLU):

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



Detailed soil profile descriptions:*Sandy flats***G4** Sand over dispersive clay (Hypercalcic, Brown Sodosol)

Medium thickness loamy sand to sand with a bleached A2 layer, sharply overlying a columnar structured brown sandy clay with abundant soft carbonate from about 35 cm, grading to Blanchetown Clay from about 100 cm. Thickness is variable and may be as thin as 100 cm over Parilla Sand.

*Heavy flats***F2a** Sandy loam over dispersive brown clay (Hypercalcic Brown Sodosol)

Thin to medium thickness hard sandy loam abruptly overlying a prismatic structured dark brown clay with abundant soft carbonate from about 30 cm, grading to Blanchetown Clay from about 60 cm.

F2b Clay loam over dispersive brown clay (Vertic, Brown Sodosol)

Thin hard fine sandy clay loam (seasonally cracks), abruptly overlying a dark brown very coarsely prismatic heavy clay grading to Blanchetown Clay at about 40 cm. The soil is weakly calcareous throughout.

*Sandhills***H3** Deep bleached sand (Calcareous, Arenic, Bleached-Orthic Tenosol)

Thick bleached sand, organically darkened at the surface, grading to an orange sand becoming more clayey and moderately calcareous at depths between 100 and 150 cm.

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

