

# MID Milendella Land System

Outwash fans between Sanderston and Palmer

**Area:** 25.9 km<sup>2</sup>

**Annual rainfall:** 355 – 450 mm average

**Geology:** The fans are formed on outwash sediments from the ranges to the west. These are mixed materials depending on depositional environments. Coarse textured and gravelly sediments occur adjacent to the ranges and in association with watercourses. Clayey sediments are common further from the range and further from watercourses. The sediments are capped by a veneer of fine grained carbonates in 40% of soils.

**Topography:** Gently to moderately inclined outwash fans adjacent to the eastern escarpment of the Mount Lofty Ranges. Slopes range from 1% to 12%, although there are some narrow strips immediately adjacent the escarpment which are up to 20%. Watercourses cross the fans, but are only well defined on the western (steeper) slopes, where they are sometimes eroded.

**Elevation:** 110 m in the east to 220 m in the west.

**Relief:** The slopes are even with less than 5 m of relief.

**Soils:** The soils are deep sands to loamy sands, but there is significant variation in subsoils which vary from red clays through calcareous sandy clay loams to sands.

#### Main soils

<b>D5</b>	Loamy sand over red clay
<b>A4</b>	Calcareous sandy loam
<b>M4/C1</b>	Gradational loamy sand
<b>M1</b>	Deep coarse textured alluvium

**Main features:** The Milendella Land System is a moderately to very gently sloping outwash fan characterized by deep sandy to loamy texture contrast soils, calcareous sandy loams and deep coarse textured alluvial soils. Overall productivity potential is moderately high, with limitations locally due to one or more of restricted waterholding capacities (calcareous and sandy soils), marginal fertility (sandier soils), poor surface structure (non calcareous sandy loams), erosion potential (upper slopes) and subsoil boron toxicity.



**Soil Landscape Unit summary:** 3 Soil Landscape Units (SLUs) mapped in the Milendella Land System:

SLU	% of area	Main features #
JKA	24.7	Outwash fans formed on outwash alluvium.
JKB	57.5	<b>JKA</b> Flat to very gently sloping plains with slopes of 1-2%.
JKC	17.8	<b>JKB</b> Gently inclined fans with slopes of 2-4%. <b>JKC</b> Moderately inclined fans with slopes of 4-12% (up to 20% immediately adjacent to the escarpment). Main soils: <u>loamy sand over red clay</u> - <b>D5</b> (E) and <u>calcareous sandy loam</u> - <b>A4</b> (E), with <u>gradational loamy sand</u> - <b>M4/C1</b> (L) and <u>deep coarse textured alluvium</u> - <b>M1</b> (L), the latter being concentrated on upper fans. These soils are deep with moderately low to moderate inherent fertility. The calcareous soils may have restricted waterholding capacity due to highly calcareous clay layers at moderate depth. The D5 soils have a tendency to set hard, thereby adversely affecting workability, seedling emergence and runoff. Elevated subsoil boron can be expected where subsoils are clayey. There is significant potential for water erosion on upper fans due to their gradient and position below the steep escarpment of the ranges.

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

(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:

##### **D5** Loamy sand over red clay (Hypocalcic, Red Chromosol)

Thick loamy sand to sandy loam, overlying a red sandy clay to clay with moderate blocky structure, weakly calcareous from about 65 cm and grading to sandy clay loam to sandy clay continuing below 100 cm.

##### **A4** Calcareous sandy loam (Hypercalcic Calcarosol)

Calcareous sandy loam grading to a highly calcareous light brown sandy clay loam over a Class III A carbonate layer from about 55 cm, with calcareous clay loam to light clay continuing below 100 cm.

##### **M4/C1** Gradational loamy sand (Eutrophic / Hypercalcic, Red Kandosol)

Thick loamy sand grading to a red massive sandy clay loam becoming more clayey with depth, calcareous from about 60 cm in a third of profiles over a red or brown sandy clay loam to sandy clay continuing below 100 cm.

##### **M1** Deep coarse textured alluvium (Lutic Rudosol)

Very thick loamy sand to sandy loam continuing below 100 cm.

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

