

BND**Benda Land System**

(Equivalent to Land Type FLB3-Benda of the Rangelands)

Area: 0.9 km²**Landscape:** Lateritised low hills and rises often with ironstone gravelly outwash fans and pediments. This is the extreme western end of a system extending to the north-east into the pastoral country.**Annual rainfall:** 230 – 235 mm average**Geology:** Alluvial deposits including deeply weathered Pleistocene clays and gravels and Holocene clayey and calcareous deposits.

Main soils:

D4	Loam over pederic red clay
A3	Deep moderately calcareous sandy loam to loam
A4	Deep (rubby) calcareous sandy loam to loam
M4	Deep hard gradational sandy loam

Minor soils:

L1	Shallow stony sandy loam to loam
A2	Shallow calcareous loam
C3	Gradational clay loam
RR	Rock outcrop

Summary: Lateritised low hills and rises often with ironstone gravelly outwash fans and pediments. Soils are red texture contrast with crumbly saline and sodic subsoils, or gradational, either non-calcareous throughout or calcareous rubby soils. Shallow soils on rock are also common.**Soil Landscape Unit summary:** 3 Soil landscape Units (SLUs) mapped in the Benda Land System

SLU	% of area	Component	Main soils	Prop #	Notes
AWB	29.5	Rise	L1	D	Undulating rises with shallow rocky soils formed on interbedded quartzites and calcareous rocks. Relief is 9-30m, slopes are 3-10%. Main soils: <u>shallow stony sandy loam - L1</u> , with <u>shallow calcareous loam - A2</u> and <u>rock outcrop - RR</u> .
EUB	33.1	Rise	A2L1	E	Complex of gently undulating rises on fine grained basement rock, and fans formed on associated outwash. Relief is 9-30m, slopes are 1-3%. Main soils: Rises: <u>Shallow calcareous loam - A2</u> and <u>shallow stony loam - L1</u> , with <u>deep (rubby) calcareous loam - A4</u> . Fans: <u>deep moderately calcareous loam - A3</u> and <u>deep (rubby) calcareous loam - A4</u> , with <u>gradational clay loam - C3</u> and <u>loam over pederic red clay - D4</u> .
		Fan	A3A4	E	
JPy	37.4	Drainage depression	D4	D	Pediments and plains with texture contrast soils formed on outwash sediments derived from basement rocks. JPu Plains, moderately gullied, severely scalped. JPy Drainage depression. Severely gullied (over 20%) and scalped (over 5%). Main soils: <u>loam over pederic red clay - D4</u> , with <u>deep moderately calcareous sandy loam - A3</u> , <u>deep (rubby) calcareous sandy loam - A4</u> and <u>deep hard gradational sandy loam - M4</u> .



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

- 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:

- A2** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous loam becoming very highly calcareous with depth and grading to weathering basement rock within 50 cm.
- A3** Deep moderately calcareous sandy loam to loam (Regolithic, Calcic Calcarosol)
Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO₃ build-up in the subsoil (<20% CO₃ in subsoil). Pediment type Calcarosols.
- A4** Deep (rubby) calcareous sandy loam to loam (Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous sandy loam to loam grading to a very highly calcareous sandy clay loam to light clay with variable rubble, continuing below 120 cm.
- C3** Gradational clay loam (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to a friable red clay with soft Class I carbonate within 50 cm, overlying alluvium within 100 cm. Ironstone gravelly surfaces.
- D4** Loam over red pederic clay (Calcic, Pederic, Red Sodosol)
Thin to medium thickness fine sandy loam to loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium. Ironstone gravelly surfaces.
- L1** Shallow stony sandy loam to loam (Calcareous / Basic, Paralithic, Leptic Tenosol)
Shallow stony sandy loam to loam, often calcareous with depth, overlying weathering rock shallower than 50 cm.
- M4** Deep hard dark gradational sandy loam (Calcic, Brown Kandosol / Dermosol)
Thick brown hard sandy loam to sandy clay loam grading to a poorly structured dark brown clay, calcareous with depth.
- RR** Rock outcrop

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

