# PYG Pygery Land System

**Area:** 401.6 km$^2$

**Landscape:** Gently undulating rises underlain by granite, covered by heavy clays (Blanchetown Clay equivalent), possibly derived from weathering of the granite. The clay is mantled by a veneer of highly calcareous windblown silty sand (Woorinen Formation), rubbly in places. There are minor low sandhills of siliceous Molineaux Sand scattered across the rises. Scattered small granitic outcrops are a feature of the landscape.

**Annual rainfall:** 325 - 350 mm average

**Main soils:**

Minnipa - **A5** (Regolithic, Hypercalcic / Supracalcic Calcarosol)
Calcareous sandy loam becoming more clayey and calcareous with depth over Class III A or B carbonate in a sandy clay loam matrix, grading to Tertiary Clay from about 100 cm.

Yaninee - **C1** (Sodic, Supracalcic, Brown Kandosol)
Medium thickness hard sandy clay loam grading to a coarsely columnar brown sandy clay loam, highly calcareous from shallow depth with variable rubble, over Tertiary clay within 100 cm.

Shallow Moornaba - **H2** (Calcareous, Arenic, Red-Orthic / Yellow-Orthic Tenosol)
Medium thickness brown sand over yellowish sand with fine carbonate.

**Minor soils:**

Chintumba - **B1** (Hypervescent, Petrocalcic, Lithocalcic Calcarosol)
Medium thickness highly calcareous sandy loam to sandy clay loam containing increasing amounts of rubble with depth, over sheet calcrete at less than 50 cm.

Calcrete soil - **B2** (Petrocalcic, Lithocalcic Calcarosol)
Calcareous sandy loam to sandy clay loam over carbonate rubble grading to sheet calcrete.

Bookabie - **A4** (Regolithic, Hypercalcic / Lithocalcic Calcarosol)
Calcareous soft sandy loam to sandy clay loam, becoming more clayey and calcareous with depth, over rubbly Class III B or C carbonate (**A4a**) or fine Class IIIA carbonate (**A4b**) in a sandy clay loam to light clay matrix, from about 40 cm.

Skeletal soil - **L1** (Lithic, Leptic Tenosol / Rudosol)
Variable gravelly loamy sand to sandy clay loam over basement rock at depths usually less than 50 cm.

Cleve (shallow) - **D1** (Calcic, Red Chromosol)
Thin to medium thickness gravelly sandy loam to clay loam over a red well structured clay, calcareous with depth, grading to weathering metamorphic rock within 50 cm.

**Summary:** The bulk of the land is fully arable with deep moderately fertile soils, although high subsoil boron and salinity affect crop yields in dry seasons. There is slight water and wind erosion potential throughout. Low sandhills cover about 15% of the area. These soils are infertile and prone to wind erosion.

**Soil Landscape Unit summary:** 5 Soil Landscape Units (SLUs) mapped in the Pygery Land System:

| SLU | % of area | Component | Main soils | Prop# | Notes |
|---|---|---|---|---|---|
| A-g | 0.6 | Rocky outcrops | Skeletal | D | Shallow soil, rocky outcrop - non arable. |
| ETB | 0.2 | Basement rock rises Rocky outcrop | Shallow Cleve / Skeletal | D | Semi arable - moderately shallow to shallow stony soil with rocky reefs. |
| IkB | 96.5 | Broad very gently inclined rises | Minnipa | V | Deep calcareous or non calcareous sandy loam with moderate fertility, but with high boron and salt in subsoil. Slight potential for water and wind erosion. Sandhills are infertile and have moderate wind erosion potential. Stony land has restricted waterholding capacity. |
| | | | Yaninee | L | |
| | | Low sandhills | Shallow Moornaba | L | |
| | | Stony areas | Calcrete / Chintumba | M | |
| QMA | 0.1 | Very stony flats | Calcrete Chintumba | D | Stony shallow soil with abundant surface stone and sheet rock - non arable. |
| QaA | 2.6 | Very stony flats | Calcrete / Chintumba | E | Semi arable flats - shallow stony soils and surface stone are extensive, but sandy loam flats are arable, as are sandhills, although susceptible to wind erosion. |
| | | Sandy loam flats | Bookabie | C | |
| | | Low sandhills | Shallow Moornaba | L | |

# 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)

**Further information:** DEWNR Soil and Land Program