

# RID Ridley Land System

Undulating stony rises between Mannum and Walker Flat

**Area:** 55.1 km<sup>2</sup>

**Annual rainfall:** 275 – 325 mm average

**Geology:** Most of the land is formed on sheet and rubbly calcrete. In depressions where the calcrete has been dissolved or eroded, underlying Blanchetown Clay is near the surface. There are sporadic deposits of windblown Molineaux Sand overlying the calcrete.

**Topography:** The landscape is dominated by gently undulating stony to very stony rises, flats and circular depressions, many of which are uncleared. Broad depressions where the calcrete has been removed are fully cleared and generally arable. Minor sand spreads overlie the calcrete rises.

**Elevation:** 60 - 90 m

**Relief:** 5 - 20 m

**Soils:** Shallow to moderately deep calcareous sandy loams to loams are dominant, with limited areas of loamy texture contrast soils and minor deep sands.

#### Main soils

*Stony flats, rises and depressions*

**B2/B3** Shallow stony sandy loam

**A4** Rubbly calcareous sandy loam

#### Minor soils

*Depressions*

**A5** Deep calcareous loam

**D2** Loam over red clay

*Sand spreads*

**H2** Deep sand

**Main features:** The Ridley Land System is characterized by undulating calcrete rises and flats, the soils on which are mostly too shallow and stony for cultivated agriculture. Broad depressions and minor non stony rises are arable, but shallow stony soils represent the main limitation to productivity. Minor sand spreads are infertile and subject to wind erosion, and have little agricultural value.



**Soil Landscape Unit summary:** 6 Soil Landscape Units (SLUs) mapped in the Ridley Land System

SLU	% of area	Main features #
IVE	19.0	Gently undulating depressions formed on Tertiary clays. Surface stone is variable but not limiting overall. Main soils: <u>deep calcareous loam</u> - <b>A5</b> (E), <u>rubbly calcareous sandy loam</u> - <b>A4</b> (E) and <u>loam over red clay</u> - <b>D2</b> (E). These soils are often moderately deep and reasonably fertile. Shallow soils associated with rubbly patches have restricted waterholding capacity - the main limitation overall.
QHA QHB QHE	13.0 61.2 1.9	Very stony flats, rises and depressions formed on calcrete. <b>QHA</b> Very gently undulating flats. <b>QHB</b> Gently undulating rises. <b>QHE</b> Depressions. Main soils: <u>shallow stony sandy loam</u> - <b>B2/B3</b> (V) with <u>rubbly calcareous sandy loam</u> - <b>A4</b> (L) in places. This land is very stony, with some areas of sheet rock at or near the surface. Soils are very shallow. Accessibility is difficult in places. Although some small patches are farmed, most of the land is non arable and there are large uncleared or regrowth areas.
QJB	1.2	Low rises with limited surface stone. Main soils: <u>rubbly calcareous sandy loam</u> - <b>A4</b> (E), with <u>shallow stony sandy loam</u> - <b>B2/B3</b> (E). These rises are arable but low water holding capacity limits productivity.
UUK	3.7	Sand spreads overlying stony calcrete rises. Main soils: <u>deep sand</u> - <b>H2</b> (E) on sand spreads, with <u>shallow stony sandy loam</u> - <b>B2/B3</b> (E) on the stony ground. The sands are infertile and prone to wind erosion, and the soils on the stony land are generally too shallow for cropping. Overall production potential is low.

# 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:**

- A4** Rubbly calcareous sandy loam (Regolithic, Lithocalcic Calcarosol)  
Medium thickness calcareous loamy sand to sandy loam over a Class III C rubble layer grading to very highly calcareous clay loam (depressions) or calcrete at about 50 cm.
- A5** Deep calcareous loam (Regolithic, Hypercalcic Calcarosol)  
Calcareous loam becoming more clayey and calcareous with depth over a very highly calcareous clay loam with variable carbonate rubble, grading to Tertiary clay at about 60 cm.
- B2/B3** Shallow stony sandy loam (Ceteric / Epibasic, Petrocalcic, Lithocalcic Calcarosol)  
Medium thickness calcareous sandy loam to loamy sand with variable carbonate rubble over sheet calcrete at depths ranging from 15 - 40 cm.
- D2** Loam over red clay (Hypercalcic, Red Chromosol)  
Medium thickness sandy loam to loam abruptly overlying a red well structured clay with soft carbonate from about 80 cm.
- H2** Deep sand (Calcareous, Arenic, Red-Orthic Tenosol)  
Very thick loose reddish brown sand, becoming slightly clayey and weakly calcareous with depth, continuing below 200 cm.

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

