

# COT Cottage Bore Land System

**Area:** 52.0 km<sup>2</sup>

**Landscape:** The land system consists of pediments and valley floors. Some patterned ground occurs on pediments where surface gravels have accumulated from surface wash. Pediments have many creeks and drainage lines.

**Annual rainfall:** 225 – 245 mm average

**Geology:** Pleistocene alluvial/colluvial sediments occur on pediments. Underlying hard rocks are mostly Proterozoic age fillites, sandstones, quartzites and siltstones of the Umberatana Group of the Adelaide Geosyncline.

**Soils:** Deep calcareous and non-calcareous gradational soils are predominant on pediments, with red pedaric (crumbly subsoil) texture contrast soils on flats.

Main soils (in order of dominance)

- A4** Deep (rubbly) calcareous sandy loam to loam
- D4** Loam to clay loam over pedaric red clay
- A3** Deep moderately calcareous loam to sandy loam
- C3** Friable gradational clay loam
- M4** Hard gradational sandy loam

Minor soils

*On outwash*

- A5** Rubbly calcareous loam to sandy loam on clay
- D6** Ironstone gravelly sandy loam over red clay

*On basement rock*

- A2** Shallow calcareous loam
- C2** Gradational loam on rock
- D1** Loam over clay on rock
- L1** Shallow stony sandy loam
- RR** Rock outcrop

**Summary:** The Cottage Bore Land System consists of pediments with calcareous and non-calcareous soils and valley floors with pedaric red texture contrast soils.



**Soil Landscape Unit summary:** 17 Soil Landscape Units (SLUs) mapped in the Cottage Bore Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
DbG	3.7	Rises	D1A2	E	Gently undulating rises and fans. Slopes are 1-3%, relief is less than 9m. Most soils are formed over basement rock or have saprolite within one metre of the surface. Fine grained alluvium underlies fans which are moderately gullied.  Main soils: <b>Rises:</b> <u>loam over clay on rock</u> - <b>D1</b> and <u>shallow calcareous loam</u> - <b>A2</b> , with <u>gradational loam on rock</u> - <b>C2</b> and <u>ironstone gravelly sandy loam over red clay</u> . <b>Fans:</b> <u>loam over pedaric red clay</u> - <b>D4</b> , with <u>deep moderately calcareous loam</u> - <b>A3</b> , <u>hard gradational sandy loam</u> - <b>M4</b> and <u>friable gradational clay loam</u> - <b>C3</b> .
		Fans	D4	E	
EEB	0.7	Rises	A2	D	Gently undulating rises formed on fine grained rock. Slopes are 1-3%, relief is less than 30m.  Main soils: <u>shallow calcareous loam</u> - <b>A2</b> , with <u>deep (rubbly) calcareous loam</u> - <b>A4</b> .
EFV	1.2	Slopes	A2A4	D	Gently undulating slopes with moderately shallow soils overlying hard calcareous rocks, typically siltstones and limestones. Slopes are 1-3%, relief is less than 30m. 5-10% of land is scalded.  Main soils: <u>shallow calcareous loam</u> - <b>A2</b> and <u>deep (rubbly) calcareous loam</u> - <b>A4</b> .
EVB	1.6	Rises	A2A4	D	Rises with rock outcrops and shallow calcareous soils formed on fine grained calcareous rocks. <b>EVB</b> Gently undulating rises. Slopes 1-3%, relief less than 30m. <b>EVC</b> Undulating rises. Slopes 3-10%, relief less than 30m.  Main soils: <u>shallow calcareous loam</u> - <b>A2</b> and <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> , with <u>shallow stony sandy loam</u> - <b>L1</b> and <u>rock outcrop</u> - <b>RR</b> .
EVC	3.8	Rises	A2A4	D	
JLoo	12.6	Drainage depressions	D4C3	D	Drainage depressions and flats formed on fine grained alluvium.
JLu	3.4	Flats	D4C3	D	<b>JLoo</b> Drainage depressions. More than 20% gullied and 10-50% scalded. <b>JLu</b> Flats, more than 50% scalded.  Main soils: <u>clay loam over pedaric red clay</u> - <b>D4</b> and <u>friable gradational clay loam</u> - <b>C3</b> , with <u>deep moderately calcareous loam</u> - <b>A3</b> .
JPoo	3.7	Drainage depressions	D4	D	Drainage depressions formed on outwash sediments derived from basement rocks.
JPyy	12.0	Drainage depressions	D4	D	<b>JPoo</b> Drainage depressions, more than 20% gullied and 10-50% scalded. Subsoils moderately saline. <b>JPyy</b> Drainage depressions, more than 20% gullied and more than 50% scalded. Subsoils moderately saline.  Main soils: <u>clay loam over pedaric red clay</u> - <b>D4</b> , with <u>deep moderately calcareous loam</u> - <b>A3</b> , <u>hard gradational sandy loam</u> - <b>M4</b> and <u>friable gradational clay loam</u> - <b>C3</b> .
KFV	7.1	Fans	A4A5	D	Gently sloping fans formed on outwash sediments. Slopes 1-3%. 10-50% scalded.  Main soils: <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b>



					and <u>rubbly calcareous sandy loam on clay</u> - <b>A5</b> , with <u>loam over pedaric red clay</u> - <b>D4</b> , <u>deep moderately calcareous sandy loam</u> - <b>A3</b> and <u>hard gradational sandy loam</u> - <b>M4</b> .
KOG	9.6	Fans	A4A5	D	Gently sloping fans formed on outwash sediments. Slopes 1-3%. Gullyng affects 5-10% of land.  Main soils: <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> and <u>rubbly calcareous sandy loam on clay</u> - <b>A5</b> , with <u>deep moderately calcareous sandy loam</u> - <b>A3</b> and <u>loam over pedaric red clay</u> - <b>D4</b> .
KQG	8.5	Fans	A3A4	E	Complex of gently sloping fans on outwash sediments, and basement rock rises. Slopes are 1-3% on pediments and 3-10% on rises; relief is less than 9m on pediments and 9-30m on rises. Fans are 5-10% gullied.  Main soils: <b>Fans:</b> <u>deep moderately calcareous sandy loam</u> - <b>A3</b> and <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> , with <u>hard gradational sandy loam</u> - <b>M4</b> and <u>loam over pedaric red clay</u> - <b>D4</b> . <b>Rises:</b> <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> , with <u>shallow calcareous loam</u> - <b>A2</b> .
		Rises	A4	E	
KVB	4.0	Fans	A4A3	D	Gently sloping fans formed on calcareous outwash sediments derived from basement rock. <b>KVB</b> Gently undulating fans, 1-3% slope. <b>KVV</b> Gently undulating fans, 1-3% slope and 5-10% scalded.  Main soils: <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> and <u>deep moderately calcareous sandy loam</u> - <b>A3</b> , with <u>hard gradational sandy loam</u> - <b>M4</b> and <u>loam over pedaric red clay</u> - <b>D4</b> .
KVV	0.9	Fans	A4A3	D	
KaQz	16.0	Fans	C3A4	D	Gently sloping fans with soils formed on outwash sediments derived from basement rock. Slopes are 1-3%. More than 50% scalded and 5-10% gullied. Soils are moderately saline.  Main soils: <u>friable gradational clay loam</u> - <b>C3</b> and <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> , with <u>hard gradational sandy loam</u> - <b>M4</b> and <u>deep moderately calcareous loam</u> - <b>A3</b> .
ZANS	4.2	Fans	A4A3	D	Saline land with halophytic vegetation.
ZAVS	7.1	Fans	A4A3	D	<b>ZANS</b> Gently sloping fans. Moderately gullied and scalded. <b>ZAVS</b> Gently sloping fans. Severely gullied and scalded.  Main soils: <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> and <u>deep moderately calcareous sandy loam</u> - <b>A3</b> , with <u>loam over pedaric red clay</u> - <b>D4</b> and <u>hard gradational sandy loam</u> - <b>M4</b> .

# PROPORTION codes assigned 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 stony loam grading to soft or rubbly carbonate over weathering dolomite or calc-siltstone within 50 cm.
- A3** Deep moderately calcareous sandy loam to loam (Regolithic, Calcic Calcarosol)  
Calcareous loam to sandy loam grading to a loamy to clayey subsoil without a significant carbonate accumulation in the subsoil, grading to medium to fine grained alluvium.
- A4** Deep (rubbly) 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.
- A5** Rubbly calcareous loam to sandy loam on clay (Regolithic, Hypercalcic / Lithocalcic Calcarosol)  
Calcareous sandy loam to loam grading to a very highly calcareous rubbly sandy clay loam to light clay, over a clayey substrate deeper than 60 cm, but within 120 cm.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)  
Loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.
- C3** Gradational clay loam (Calcic / Hypercalcic Red Dermosol)  
Clay loam grading to a friable red clay with abundant soft Class I carbonate within 50 cm, overlying alluvium within 100 cm.
- D1** Loam over clay on rock (Hypercalcic / Calcic, Red Chromosol)  
Medium thickness hard gravelly loam over a friable and finely structured red clay, calcareous with depth, grading to weathering basement rock within 100 cm.
- D4** Loam to clay loam over pedaric red clay (Calcic, Pedaric, Red Sodosol)  
Thin to medium thickness loam to clay loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- D6** Ironstone gravelly loam over red clay (Ferric, Red Chromosol)  
Ironstone gravelly sandy loam to loam abruptly overlying a red weakly to moderately well structured clay grading to highly weathered alluvial sediments.
- L1** Shallow stony sandy loam (Paralithic, Leptic Tenosol)  
Shallow stony loam, often calcareous with depth, overlying weathering fine grained rock shallower than 50 cm.
- M4** Hard gradational sandy loam (Calcic, Brown / Red Dermosol / Kandosol)  
Hard setting sandy loam grading to a poorly structured to massive hard red or brown sandy clay to clay, weakly to moderately calcareous with depth, over alluvial sediments.
- RR** Rock outcrop.

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

