

HAM Hammond Land System

Area:	150.5 km ²
Landscape:	Pediments and plains with calcareous and non-calcareous clay loam to clay over red clay and shallow calcareous clay loams on associated rises east and south-east of Hammond locality.
Annual rainfall:	285 – 385 mm average
Geology:	Quaternary slope deposits (Pooraka Formation, Qht) and calcareous siltstones of the Tapley Hill Formation (Pft).
Topography:	Gently sloping to undulating pediment plains often containing low rises underlain by calc-siltstone or other fine-grained rock. Slopes on pediments are in the range 1 - 6%, and on the rises are mostly 3 - 6%. Drainage and slopes are predominantly to the west. This land system forms the upper part of the catchments of the Muttabee and Amyton Creeks, both tributaries of the Willochra creek.
Elevation:	Up to 500 m asl, but mostly around 450 - 460 m on crests of rises and upper pediments.
Relief:	20 - 30 m mostly on rises. The relief between upper and lower pediments is of the order of 30 m, but may be as much as 50 m.
Typical soils:	<p>Hard, erodible clay loam over friable red clay (pedaric Sodosols or Chromosols) on pediments, mostly with carbonate and gypsum at depth</p> <p>Stony loam over prismatic red clay with carbonate at depth (Chromosols) on pediments.</p> <p>Calcareous clay loam grading to highly calcareous clay over stony calcareous clayey fan deposits (Calcarosols) on pediments in association with the above Sodosols and Chromosols.</p> <p>Calcareous clay loam grading to highly calcareous clay over calcareous siltstone (Calcarosols) on low rises, often as hard basement highs on pediments.</p>
Main soils:	<p>C3 (14%) Friable gradational clay loam (Calcic-Hypercalcic Red Dermosol-Calcarosol)</p> <p>A2 (12%) Calcareous loam on rock (Paralithic Calcarosol)</p> <p>C1 (11%) Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)</p> <p>D2 (10%) Loam over red clay (Calcic-Hypercalcic Red Chromosol-Sodosol)</p> <p>L1 (10%) Shallow soil on rock (Rocky Rudosol-Tenosol)</p>
Minor soils:	<p>D4 (9%) Loam over pedaric red clay (Pedaric Red Sodosol-Dermosol)</p> <p>A5 (8%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay)</p> <p>RR (4%) Bare rock</p> <p>A3 (3%) Deep moderately calcareous loam (Calcic Calcarosol)</p> <p>B2 (3%) Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)</p> <p>D1 (3%) Loam over clay on rock (Shallow Calcic-Hypercalcic Red Chromosol)</p>



Summary:

The Hammond Land System is an area of relatively low relief between the steep and hilly, Horseshoe Range and Gilbert Hill Land Systems. Pediments with red duplex and calcareous soils surround the central core of rises. The drainage flows westward to join the Willochra creek.

Soil Landscape Unit summary: Hammond Land System (HAM)

SLU	% of area	Component	Main soils	Prop#	Notes
ABB	1.0	Rolling rises	L1RR	D	Rolling rises with linear rocky quartzite outcrops and shallow rocky soils on interbedded fine-grained rocks. Relief is less than 30m, slopes are 10-30%. Bare rock outcrop is common. Main soils: <u>Shallow stony soils on rock</u> - L1
ADB	0.1	Rolling rises	L1	D	Non-arable rocky rises with thin soil cover formed on limestone and calc-siltstone with very shallow loamy soils. ADB Rolling rises as above. Relief is 9-30m, slopes are 10-30%. ADH Rolling rises as above, with eroded watercourses. Relief is 9-30m, slopes are 10-30% ADh Rolling rises as above with eroded watercourses and scalding. Relief is 9-30m, slopes are 10-30% ADI Rolling low hills as above, with eroded watercourses. Relief is 30-90m, slopes are 3-10%. Main soils: calcareous loamy, <u>Shallow stony soils on rock</u> - L1 ; <u>gradational red clay-loam over clay</u> (Red clayey pederic Dermosols) - C2 and <u>Calcareous clay loam on rock</u> - A2 . Non-arable, limited pastoral use.
ADH	0.4	Rolling rises	L1	D	
ADh	0.7	Rolling rises	L1	D	
ADI	4.6	Rolling low hills	L1	D	
DJH	0.3	Undulating rises	D4D6 C3	D	Undulating rises with shallow red duplex soils associated with deeply weathered kaolinised and ferruginised rocks. Relief is 9-30m, slopes are 3-10%. Main soils: <u>Loam over pederic red clay</u> - D4 , <u>Ironstone-gravelly sandy loam over red clay</u> - D6 and <u>Friable gradational sandy clay loam</u> - C3 .
DNB	0.3	Gently undulating rises	D1	D	Rises with shallow texture contrast soils formed on fine-grained rocks, typically Brachina Shale Formation. The soils have clay loam surface textures. DNB Gently undulating rises. Slopes: 1-3%, relief is less than 30m. DNC Undulating rises. Relief is 9-30m, slopes are 3-10%. DNV Gently undulating rises. Scalding occurs on 5-50% of land. Slopes are 1-3%, relief is less than 30m. DNW Undulating rises; 5-10% of land is scalded and gullied. Relief is 9-30m, slopes are 3-10%. Main soils: <u>Loam over red clay</u> - D2 and <u>Clay loam over pederic red clay on rock</u> - D1 .
DNC	0.9	Undulating rises	D2D1	D	
DNV	2.8	Gently undulating rises	D1	D	
DNW	0.3	Undulating rises	D2D1	D	
EAC	0.2	Undulating rises	A2C2 D1	D	Undulating rises with gradational calcareous soils over hard rock with more than 20% red texture contrast and/or non-calcareous red gradational soils. Relief: 9-30m, slopes: 3-10%. Main soils: <u>Calcareous loam on rock</u> - A2 , <u>Gradational loam on rock</u> - C2 , <u>Clay loam over pederic red clay on rock</u> - D1 .
EDC	0.3	Undulating rises	C2L1	D	Undulating rises with red sandy to loamy surfaced gradational soils on quartzites and siltstones. Main soils: <u>Gradational loam on rock</u> - C2 and <u>Shallow stony soils on rock</u> - L1 .
EFC	4.8	Undulating rises	A2D7L1	D	Rises with shallow, mainly calcareous loamy soils formed on calc-siltstones of the Wonoka or Tapley Hill Formations typically. EFC Undulating rises.
EFG	0.3	Gently undulating	A2D7L1	D	



		rises			Relief is less than 30m, slopes are less than 10%.
EFH	1.4	Undulating rises	A2D7L1	D	EFH Gently undulating rises as above, with up to 20% gully erosion. Relief is 9-30m, slopes are 1-3%.
EFW	1.1	Undulating rises	A2D7L1	D	EFH Undulating rises with gullies affecting 5-10% of land. Relief is 9-30m, slopes are 3-10%. EFW Undulating rises variably scalded with between 5 and 50% of land affected. Main soils: <u>Calcareous loam on rock – A2</u> , <u>Loam over poorly structured clay on rock - D7</u> , <u>Shallow stony soils on rock - L1</u> .
EHB	0.5	Gently sloping plain	A2	V	Rises and pediments on calcareous siltstones and limestones such as those of the Tapley Hill Formation, Wonoka Formation and the ABC Range Quartzite of the Wilpena Group. The soil-landscape units are also associated with Bunyeroo Formation shales with some outwash contribution from calcareous Wonoka Formation calc-siltstones.
		Rocky outcrops	RR	L	
EHC	0.7	Undulating rises	A2L1	V	EHB Gently sloping plains with rocky outcrops. <i>Gently sloping Plains:</i> Slopes are 1-3%, relief is less than 9m. <i>Rocky rises:</i> Slopes are 3-10%, relief is 9-30m.
		Undulating pediments	A2	C	
EHH	0.6	Undulating rises	A2L1	V	EHC Undulating rises and pediments. Relief is less than 30m, slopes are 3-10%. EHH Undulating rises and pediments. Relief is less than 30m, slopes are 3-10%.
		Undulating pediments	A2	C	
EHm	1.0	Undulating rises	A2L1	V	Gullying affects up to 20% of land. EHm Undulating low rises on calcareous basement rock with deeper calcareous soils on lower slopes & drainage depressions. Scalding is moderate to severe on lower slopes. Relief is less than 30m, slopes are 3-10%. Severely scalded (40-50% of land affected) and gullied (20% land affected).
		Undulating pediments	A2	C	
EHn	0.5	Rolling rises	A2L1	V	<i>Main soils:</i> <i>Rises, crests:</i> <u>Calcareous loam on rock – A2</u> . <i>Lower slopes:</i> <u>Calcareous loam on rock – A2</u> and <u>Shallow stony soils on rock - L1</u> .
		Pediments	A2	C	
EHV	3.1	Gently undulating pediments	A2	V	EHn Dissected rolling rises with shallow calcareous soils on Cambrian Hawker Group limestone & calc-siltstone. Some areas of shallow red clay soils occur on crests (She-oak/Allocasuarina groves are associated with these). Severely scalded (40-50% of land affected) and gullied (20% of land affected). Main soils: <u>Calcareous loam on rock – A2</u> and <u>Shallow (often clayey) stony soils on rock - L1</u> .
		Rocky rises	A2L1	C	
EHW	0.6	Undulating rises	A2L1	V	EHV Gently undulating pediments with rocky rises <i>Pediments:</i> Gently undulating plains, 50-50% of land is scalded. Slopes are 1-3%, relief is less than 9m. <i>Rocky Rises:</i> Undulating rises, 5-50% of land is scalded. Slopes are 3-10%, relief is 9-30m.
		Undulating pediments	A2	C	
EHX	0.8	Rolling rises	A2L1	V	EHW Undulating rocky rises with pediments. Relief is less than 30m, slopes are 3-10%. 5-50% of land is scalded. EHX Rolling rocky rises with pediments. Relief is less than 30m, slopes are 10-30%. 5-50% of land is scalded. Main soils: <i>Rocky rises:</i> <u>Shallow stony soils on rock - L1</u> , Bare rock - RR . <i>Plains and Pediments:</i> <u>Calcareous loam on rock – A2</u> , <u>Loam over poorly structured clay on rock - D7</u> and <u>Shallow stony soils on rock - L1</u> .
		Pediments	A2	C	
ELI	0.4	Rolling rises	L1C2B2	D	Rises with shallow soils formed on Appila Tillite Formation and



ELW	2.3	Undulating rises	L1C2B2	D	alluvium. ELI Rolling rises; gullyng affects 5-10% of land, scalding affects around 5%. Slopes are 10-30%, relief is less than 30m. ELW Undulating rises-pediment complex. Scalding affects around 5-10%, minor gullyng affects 5-10%. Slopes are 3-10%, relief is 9-30m. Main soils: <u>Shallow stony soils on rock</u> - L1 , gradational red clay-loam over clay (<u>Red clayey pedaric Dermosols</u> - C2) and <u>Shallow calcareous loam on calcrete</u> - B2 .
EVC	0.5	Undulating rises	A2	V	Undulating rises with rock outcrops and shallow calcareous soils formed on fine-grained calcareous rocks. Slopes are 3-10%, relief is less than 9-30m. Main soils: <u>Calcareous loam on rock</u> – A2 and <u>Bare rock</u> – RR .
		Rocky outcrops	RR	C	
EZC	1.4	Undulating rises	RR	V	Gullyng affects 10-20% of land, scalding affects around 5%. Slopes are 3-10%, relief is less than 30m. EZn Rolling rise-pediment complex. Relief is 9-30m, slopes are 10-30%. EZW Undulating rises with rocky outcrops. Slopes are 3-10%, relief is less than 30m.
		Rocky outcrops	RR	C	
EZH	0.9	Undulating rises	RR	V	Main soils: Rises: <u>Calcareous loam on rock</u> – A2 , <u>Rubbly calcareous loam on clay</u> - A5 , <u>Shallow calcareous loam on calcrete</u> - B2 Rocky outcrops: <u>Bare rock</u> – RR . Pediments: <u>Calcareous loam on rock</u> – A2 , <u>Rubbly calcareous loam on clay</u> - A5 and <u>Shallow calcareous loam on calcrete</u> - B2 .
		Rocky outcrops	RR	C	
EZn	1.2	Rolling rises	A2A5B2	V	
		Pediments	A2A5B2	C	
EZW	0.6	Undulating rises	A2A5B2	V	
		Rocky outcrops	RR	C	
HFB	0.2	Gently undulating rises	D4D6 C3	D	Gently undulating rises with red texture contrast soils developed over deeply weathered basement or sediments. Main soils: <u>Loam over pedaric red clay</u> - D4 , <u>Ironstone-gravelly sandy loam over red clay</u> - D6 and <u>Friable gradational clay loam</u> - C3 . <u>Rubbly calcareous loam on clay</u> - A5 soils also occur as a minor component.
JEG	5.4	Gently undulating pediments	D2C3	D	Gently sloping pediments with clay-loam surfaced, texture contrast soils formed in alluvium. 5-10% of land is gullied. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Clay loam over red clay</u> - D2 and <u>Friable gradational clay loam</u> - C3 . Subdominant soils are mainly <u>Clay loam over pedaric red clay</u> - D4 and <u>Rubbly calcareous loam on clay</u> - A5 .
JFB	7.1	Gently undulating pediments	D2D4 C1	D	Gently undulating pediments with mostly red texture contrast soils with clay loam surfaces, calcareous soils occupy more than 20% and other gradational soils occupy more than 10%. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Loam over red clay</u> - D2 , <u>Loam over pedaric red clay</u> - D4 and <u>Gradational sandy loam</u> - C1 .
JMo	0.9	Creek flat	D2D4 A6	D	Pediments plains and creek flats with stony, pedaric, red, texture contrast soils with quartz gravel on the surface.
JMV	0.9	Gently sloping plain	D2D4 A6	D	JMo Creek flat with unstable banks; 5-10% affected by active gullyng, minor scalding (less than 5%) also occurs. JMV Gently sloping plains with 10-50% scalded. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Loam over red clay</u> - D2 , <u>Loam over pedaric red clay</u> - D4 and <u>Gradational calcareous clay</u> - A6 .
JNF	0.2	Plains	D4D2 A5	D	Pediments and plains with non-stony pedaric, texture contrast soils with calcareous subsoils. Surface textures are clay loamy most commonly.
JNI	4.2	Gently	D4D2	D	



		sloping pediments	A5		JNF Plain with 10-20% affected by gullyng and 10-20% scalded.
JNo	2.8	Creek flats	D4D2 A5	D	JNI Gently sloping pediments. Gullyng affects up to 50% of land, most severe along watercourses. Scalding affects nearly 50% of land. Slopes are 1-3%, relief is less than 9m.
JNV	2.2	Gently sloping pediments	D4D2 A5	D	JNo Creek flat 10-20% affected by gullyng and 40-50% scalded. Scalding may be more than 50% locally. JNV Gently sloping pediments. Scalding affects 10-50% of land. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Loam over red clay - D2</u> , <u>Loam over pedaric red clay - D4</u> and <u>Rubbly calcareous loam on clay - A5</u> . Red clay soils occur in minor association.
JXC	0.3	Undulating pediments	D2	V	JXC Undulating pediments and rocky rise complex with texture contrast soils in complex with rocky rises. Most soils have clay loam surfaces. Slopes are 3-10%; relief is less than 9m on pediments and 9-30m on rises. Main soils: <u>Loam over red clay - D2</u> on flats and pediments; <u>Loam over clay on rock - D1</u> on rocky rises.
		Rocky rises	D1	C	
JZG	0.9	Gently undulating pediments	D4D1 D2	V	Pediment-basement rock complex with red texture contrast soils on pediments and 20-30% rocky rises with shallow texture contrast soils. JZG Gently undulating pediment-basement rises complex, gullyng affects 10-20% of land. Slopes are 1-3%, relief is less than 9m on pediments and 9-30m on rises.
		Rocky rises	D1	C	
JZH	0.7	Undulating pediments	D4D1D 2	V	JZH Undulating pediments and rocky rise complex. The rises have 20% gullied land and 5% scalding, the pediments show around 5% gullyng and no scalding. Slopes are 3-10%, relief is less than 9m on pediments and 9-30m on rises.
		Rocky rises	D1	C	
JZJ	0.4	Creek flat	D4A5	D	JZJ Creek flat with rocky outcrops with 5-10% of land affected by gullyng. Main soils: <i>Pediments:</i> <u>Loam over pedaric red clay - D4</u> , <u>Loam over clay on rock - D1</u> and <u>Loam over red clay - D2</u> with minor <u>Rubbly calcareous loam on clay - A5</u> . <i>Rocky rises:</i> <u>Loam over clay on rock - D1</u> and <u>Bare rock - RR</u> .
		Rocky outcrops	RR	C	
KCB	0.8	Gently undulating pediments	C3A3	D	Plains and pediments of outwash sediments with gradational soils with sandy clay loam surface textures. Soils are mostly not calcareous throughout.
KCH	5.5	Undulating pediments	C3A3	D	KCB Gently undulating pediments. Slopes are 1-3%, relief is less than 9m.
KCm	0.7	Undulating pediments	C3A3	D	KCH Undulating pediments, with 10-20% gullied and minor scalding, up to 5%. Slopes are 3-10%, relief is less than 9m.
KCo	1.0	Creek line	C3A3 M3	D	KCm Undulating pediments, 10-20% is gullied and up to 50% is scalded. Slopes are 3-10%, relief is less than 9m.
KCV	0.5	Gently undulating pediments	C3A3	D	KCo Creek line with up to 50% scalding and around 5% gullyng (over 50% in places) KCV Gently undulating pediments with 10-50% scalded and 5-10% gullied. Slopes are 1-3%, relief is less than 9m.
KCMz	1.5	Undulating pediments	C3A3	D	KCMz Undulating pediments, with 5-10% gullied and 10-50% scalded. Dry saline land affects around 50%. Slopes are 3-10%, relief is less than 9m. Main soils: <u>Friable gradational sandy clay loam - C3</u> and <u>Deep moderately calcareous sandy loam - A3</u> . Additionally, <u>Deep gravelly soil - M3</u> is found associated with creek flats.
KFG	1.4	Gently undulating	A5	D	Pediments with calcareous gradational soils and more than 20% red pedaric texture contrast soils.



KFH	0.8	pediments Undulating pediment	A5	D	<p>KFG Gently undulating pediment with 10-20% of land gullied. Slopes are 1-3%, relief is less than 9m.</p> <p>KFH Undulating pediment with 10-20% of land gullied. Slopes are 3-10%, relief is less than 9m.</p> <p>Main soils: <u>Rubbly calcareous loam on clay</u> - A5 with over 20% <u>Loam over pedaric red clay</u> - D4.</p>
KGA	2.9	Plains	C3C1	D	<p>Pediments and plains with sandy surface-textured red gradational soils with calcareous subsoils.</p> <p>KGA Plains. Slopes are 0-1%, relief is less than 9m.</p> <p>KGB Gently undulating pediments, with minor scalding and gullyng. Slopes are 1-3%, relief is less than 9m.</p> <p>KGG Gently undulating pediments, with 10-20% of land affected by gullyng and 10-50% scalded. Slopes are 1-3%, relief is less than 9m.</p> <p>KGJ Creek flat with 5-10% gullied banks.</p> <p>KGo Creek flat with 10-20% gullied banks and 0-5% scalding.</p> <p>Main soils: <u>Friable gradational sandy clay loam</u> - C3 and <u>Gradational sandy loam</u> - C1.</p>
KGB	5.2	Gently undulating pediments	C3C1	D	
KGG	5.1	Gently undulating pediments	C3C1	D	
KGJ	0.0	Creek flat	C3C1	D	
KGo	1.3	Creek flat	C3C1	D	
KIB	4.4	Pediment Gently undulating rises	C1A2 L1C1A2	V L	<p>Pediment-basement rock complex with mostly gradational soils. Soils which have carbonate free surfaces are dominant. Soils which are calcareous throughout are common but not dominant.</p> <p>KIB Gently sloping pediment with undulating basement rises.</p> <p>KIC Undulating pediments and rises. Pediment slopes are 3-10%, relief is less than 9m. Relief on rises is 9-30m, slopes are 3-10%.</p> <p>KIJ Creek flats with gently undulating rises. Gullyng affects 10-20% and scalding affects 5-10% of the flats.</p> <p>KIV Gently sloping pediments with undulating basement rises. 5-10% of land on pediments is scalded. Pediment slopes are 1-3%. Rises relief is 9-30m, slopes are 3-10%.</p> <p>Main soils: <u>Pediments</u>: <u>Gradational sandy loam</u> - C1, <u>Calcareous loam on rock</u> - A2. <u>Rises</u>: <u>Shallow stony soils on rock</u> - L1, <u>Gradational sandy loam</u> - C1, <u>Calcareous loam on rock</u> - A2 and <u>Loam over poorly structured red clay</u> - D3.</p>
KIC	0.6	Pediment Undulating rises	C1A2 D3 L1A2D1	V L	
KIJ	1.8	Creek flat Gently undulating rises	C1A2 L1C1A2	V L	
KIV	1.1	Pediment Gently undulating rises	C1A2 L1C1A2	V L	
KJg	0.6	Gently undulating pediments	C4C3 A6	D	<p>Gently undulating pediments with clay loam surface-textured red gradational soils with calcareous subsoils and gradational calcareous soils. Gullyng affects 0-5% of land and salinity affects subsoils throughout. Slopes are 1-3%, relief is less than 9m.</p> <p>Main soils: <u>Hard gradational clay loam</u> - C4, <u>Friable gradational sandy clay loam</u> - C3 and <u>Gradational calcareous clay</u> - A6.</p>
KLB	1.0	Gently undulating pediment	A5	D	<p>Pediments with predominantly calcareous gradational soils</p> <p>KLB Gently undulating pediments. Slopes are 1-3%, relief is less than 9m.</p> <p>KLJ Drainage depression with 10-20% gullied land and 5-10% scalding. Subsoils are saline.</p> <p>Main soils: <u>Rubbly calcareous loam on clay</u> - A5</p>
KLJ	0.3	Drainage depression	A5	D	
KQI	0.3	Gently undulating pediment Shallow rises	A5 A2	V C	
KQm	2.3	Pediment	A5	V	<p>Slopes are 1-3%, relief is less than 9m.</p>



		Shallow rises	A2	C	KQm Undulating pediments with shallow rises. Over 50% of land on pediments is scalded and up to 20% is gullied. Soils are moderately saline throughout the profiles. Rises have little or no scalds and gullies. Main soils: <u>Rubbly calcareous loam on clay - A5</u> on pediments and <u>Calcareous loam on rock - A2</u> on rises.
XHZ	0.4	Drainage line	M1C1 C3	D	Drainage line with mostly calcareous coarse textured soils. Unstable, eroded banks predominate and scalding affects 10-50%. Main soils: <u>Deep alluvial loam - M1</u> , <u>Gradational sandy loam - C1</u> and <u>Friable gradational sandy clay loam - C3</u> .

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

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:

- A2/L1** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol) (A2) **OR** Shallow stony loam (Calcareous, Paralithic, Leptic Tenosol) (L1)
- A3** Deep moderately calcareous (sandy) loam (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.
- A5** Rubbly calcareous loamy sand on clay (Supracalcic-Lithocalcic Calcarosol on clay)
Calcareous loamy sand topsoil grading into loamy-clay loamy subsoil on a clayey substrate. Usually rubbly. Clayey substrate occurs at >60 cm and <120 cm.
- A6** Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol on clayey subsoil)
Calcareous loams to clay loams grading into brown-red clay. Often rubbly.
- B2** Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)
Shallow, grey to reddish calcareous sandy to clay loamy soil on calcrete. This includes calcareous Petrocalcic Rudosols.
- C1** Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
Friable sandy to loamy topsoil grading into massive red-brown alkaline loamy to clay loamy subsoil.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)
Loam to clay 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)
Loam to clay loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to alluvium within 100 cm.
- C4** Hard gradational clay loam (Calcic-Hypercalcic Sodic Red Dermosol-Calcarosol)
Topsoil <30 cm over a poorly structured subsoil. Often hard setting clay loam to loam grading into prismatic/poorly structured/sodic red (-brown) alkaline clayey to clay loamy subsoil. Includes eroded former texture contrast soils.
- D1** Loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol / Sodosol)
Medium thickness hard gravelly loam over red clay, friable and finely structured, calcareous with depth, grading to weathering basement rock within 100 cm.
- D2** Hard loam over red clay (Calcic / Hypercalcic, Red Chromosol)
Hard setting sandy loam to clay loam (with variable quartzite stones) abruptly overlying a well structured red clay with soft Class I carbonate at depth.



- D3** Hard clay loam over dispersive red clay (Calcic, Red Sodosol / Sodic, Calcic, Red Chromosol)
Medium thickness hard clay loam with up to 50% quartzite stones over a coarsely prismatic dispersive red clay, calcareous with depth over stony and clayey alluvium.
- D4** Loam over red friable clay (Calcic, Pedaric, 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.
- D6** Ironstone gravelly sandy loam over red clay (Ferric(?) Red Chromosol)
Loamy texture contrast soil with some ironstone gravel and a red alkaline clayey subsoil.
- D7** Loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol / Sodosol)
Medium thickness hard gravelly loam over a red clay, friable and finely structured (D1), to hard, coarsely structured and dispersive (D7), calcareous with depth, grading to weathering basement rock within 100 cm.
- L1** Shallow stony loam (Paralithic, Leptic Tenosol)
Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.
- M1** Alluvial loam (Orthic Tenosol)
Very thick loam with variable gritty or more-clayey lenses, formed over recent alluvium.
- M3** Deep gravelly soil (Gravelly Kandosol-Tenosol)
Deep uniform loamy alluvial soils with at least 50% gravel in the major part of the profile.
- RR** Bare rock

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

