

# DWP Deep Well Plain Land System

- Area:** 458.1 km<sup>2</sup>
- Landscape:** Flood plains of the Muckra, Buttamuck and Nackara Creeks and adjacent pediment slopes forming The Deep Well Plain, north of Oodlawirra.
- Annual rainfall:** 230 – 360 mm average
- Geology:** Alluvium and localized outwash sediments, including broad plains and slope deposits underlie most of the area. Minor hard rock outcrops include Tapley Hill Formation calc-siltstones, Appila Tillite and Hawker Group limestones.
- Topography:** Expansive plains intermingled with, and surrounded by, hills and ranges. The creeks flow in a north to north-easterly direction.
- Elevation:** The land system generally slopes down towards the north. High elevations are around 540 - 560m asl in the south grading to around 275 m asl in the north. The gradient is very gentle, falling by around 280 m over 53 km.
- Relief:** Low relief occurs throughout, locally reaching around 10m where rises occur on the plains, but generally less than 5m locally.
- Soils:** Predominant soils are crusty thin loam to clay loam soils over red friable clay with lime and gypsum at depth, and deep rubbly calcareous loams (both formed on fine to medium textured alluvium. They are often severely scalded.

## Main soils

- D4** Loam to clay loam over pedaric red clay  
**A5** Rubbly calcareous loam to clay loam on clay

## Minor soils

### *On outwash sediments*

- A3a** Deep moderately calcareous loam to sandy loam  
**A4** Deep (rubbly) calcareous sandy loam to loam  
**A6** Gradational calcareous clay loam  
**C1** Gradational sandy loam  
**C3** Deep gradational sandy clay loam to clay loam  
**C4** Hard gradational clay loam  
**C5** Gradational dark clay loam  
**D2** Clay loam over red clay  
**E2** Red cracking clay  
**E3** Grey-brown cracking clay  
**F2** Clay loam over poorly structured brown clay  
**M1** Deep alluvial loam  
**M3** Deep gravelly sandy loam

### *On rock*

- A2** Shallow calcareous loam to sandy loam  
**B2** Shallow calcareous sandy loam to loam on calcrete  
**C2** Gradational loam on rock  
**D1** Loam to sandy loam over clay on rock  
**D6** Ironstone gravelly sandy loam over red clay  
**D7** Loam over poorly structured clay on rock  
**L1** Shallow stony soil  
**L1a** Shallow stony loam  
**L1b** Shallow stony sandy loam



*On wind-blown deposits*

- A3b** Deep moderately calcareous loamy sand  
**A8** Gypseous calcareous loam  
**G1** Loamy sand over sandy clay loam  
**G4** Sand over poorly structured clay  
**H2** Deep red sand

**Summary:**

The Deep Well Plains Land System is a series of alluvial plains enclosed by hard rock ranges. The land system contains the flood plains of the Muckra, Buttamuck and Nackara Creeks, north of Oodlawirra. The main soils are red crumbly, sodic (pedaric) texture contrast soils and calcareous rubbly gradational soils, along with a wide range of clayey to sandy to gravelly, gradational and uniform textured soils formed in a variety of alluvial materials.

**Soil Landscape Unit summary:** 78 Soil Landscape Units (SLUs) mapped in the Deep Well Plain Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
AAM	0.2	Undulating rises	L1RRA2	D	Undulating rises with shallow rocky calcareous soils formed on Tapley Hill Formation calc-siltstones. Relief is less than 30m, slopes are less than 10%. 10-50% of land is scalded, and up to 5% is gullied. Main soils: <u>shallow stony loam</u> - <b>L1a</b> , <u>rock outcrop</u> - <b>RR</b> and <u>shallow calcareous loam</u> - <b>A2</b> .
AYA	<0.1	Undulating rises	L1	D	Undulating rises formed on calcareous siltstone or other fine grained rocks, mainly of Tapley Hill Formation. <b>AYA</b> Undulating rises. Relief: less than 30m, slopes: 3-10%. <b>AYC</b> Rolling low hills. Slopes are 10-30%, relief is 30-90m. Main soils: <u>shallow stony soils on rock</u> - <b>L1a</b> , <u>shallow calcareous loam</u> - <b>A2</b> , and <u>rock outcrop</u> - <b>RR</b> .
AYC	0.1	Rolling low hills	A2L1RR	D	
DTD	0.1	Rolling rises	D1D7	D	Rolling rises formed on fine grained rocks with 30-40% rocky land with outcrop and shallow soils. Relief is 9-30m, slopes are 10-30%. Main soils: <u>loam over clay on rock</u> - <b>D1</b> and <u>loam over poorly structured clay on rock</u> - <b>D7</b> , with <u>rock outcrop</u> - <b>RR</b> , and <u>shallow stony loam</u> - <b>L1a</b> .
EFC	0.1	Undulating rises	L1	D	Undulating rises formed on (calc)-siltstones, Appila Tillites and limestones. 10-20% are calcreted. Minor scalding occurs in places. Relief is less than 30m, slopes are 3-10%. Main soils: <u>shallow stony sandy loam</u> - <b>L1b</b> , with <u>shallow calcareous loam</u> - <b>A2</b> , and <u>shallow calcareous sandy loam on calcrete</u> - <b>B2</b> .
EOB	0.2	Gently undulating rises	A2A6	D	Rises formed mainly on Hawker Group Limestones. <b>EOB</b> Gently undulating rises. Slopes: 1-3%, relief: < 30m. <b>EOC</b> Undulating rises. Relief: less than 30m, slopes: 3-10%. Main soils: <u>shallow calcareous loam</u> - <b>A2</b> and <u>gradational calcareous clay loam</u> - <b>A6</b> , with <u>shallow stony loam</u> - <b>L1a</b> .
EOC	0.2	Undulating rises	A2A6	D	
EVB	0.1	Gently undulating rises	A2	V	Rises with rock outcrops 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 9-30m. Main soils: <b>Rises:</b> <u>shallow calcareous loam</u> - <b>A2</b> , with <u>rubbly calcareous loam on clay</u> - <b>A5</b> and <u>shallow calcareous sandy loam on calcrete</u> - <b>B2</b> . <b>Rocky areas:</b> <u>rock outcrop</u> - <b>RR</b> , with <u>shallow stony loam</u> - <b>L1a</b> .
		Rocky outcrops	RR	C	
EVC	0.1	Undulating rises	A2	V	
		Rocky outcrops	RR	C	
EZB	0.1	Gently undulating rises	A2A5B2	V	Gently undulating rises with 20-30% rocky outcrops. Slopes are 1-3%, relief is less than 30m. Main soils:



		Rocky outcrops	RR	C	<b>Rises:</b> <u>shallow calcareous sandy loam - A2</u> , <u>rubbly calcareous loam on clay - A5</u> and <u>shallow calcareous sandy loam on calcrete - B2</u> . <b>Rocky outcrops:</b> <u>rock outcrop - RR</u> , with <u>shallow stony sandy loam - L1b</u> and <u>shallow calcareous sandy loam on calcrete - B2</u> .
EaC	0.3	Undulating rises	A2D6	D	Undulating rises formed on kaolinised rock. Slopes are 3-10%, relief is less than 30m. Main soils: <u>shallow calcareous loam - A2</u> and <u>ironstone gravelly sandy loam over red clay - D6</u> with <u>deep (rubbly) calcareous sandy loam - A4</u> and <u>shallow stony loam - L1a</u> .
JDk	0.4	Plains	D2D4A4	D	Plains formed on clayey alluvium. Moderately gullied and scalded. Main soils: <u>clay loam over red clay - D2</u> , <u>clay loam over pedaric red clay - D4</u> and <u>deep (rubbly) calcareous loam - A4</u> , with <u>gradational sandy loam - C1</u> and <u>rubbly calcareous loam on clay - A5</u> .
JFA	0.1	Plains	D2D4C1	D	Plains and pediments formed on clayey alluvium.
JFE	1.1	Creek flats	D2D4C1	D	<b>JFA</b> Plains.
JFU	1.3	Plains	D2D4C1	D	<b>JFE</b> Creek flats.
JFV	1.1	Pediments	D2D4C1	D	<b>JFU</b> Plains. Moderately scalded. <b>JFV</b> Gently sloping pediments. Slopes are 1-3%. Moderately scalded. Main soils: <u>clay loam over red clay - D2</u> , <u>clay loam over pedaric red clay - D4</u> and <u>gradational sandy loam - C1</u> .
JKYz	0.3	Flood plains	D1A3A5	D	Flood plains. Over 20% of land affected by gullyng) and 10-50% scalded. Moderately saline soils. Main soils: <u>sandy loam over clay on rock - D1</u> , <u>deep moderately calcareous sandy loam - A3</u> and <u>rubbly calcareous loam on clay - A5</u> .
JLU	0.8	Plains	D4	D	Plains and pediments formed on fine grained outwash and weathering rock.
JLV	0.2	Pediments	D4	D	<b>JLU</b> Plains. Moderately scalded (10-50%). Subsoils are moderately saline.
JLII	0.2	Gently undulating pediments	D4	D	<b>JLV</b> Gently sloping pediments. Moderately scalded (10-50%). Subsoils are moderately saline. Slopes are 1-3%.
JLo	2.4	Creek flats	D4D1	D	<b>JLII</b> Gently sloping pediments. Severely gullied, (more than 20%) moderately scalded (10-50%). Moderately saline subsoils. Slopes are 1-3%.
JLyy	1.2	Creek flats	D4D1	D	<b>JLo</b> Creek flats. Moderately gullied (10-20%) and scalded (10-50%). Moderately saline subsoils. <b>JLyy</b> Creek flats. Severely gullied (more than 20%) and scalded (more than 50%). Main soils: <u>loam over pedaric red clay - D4</u> ; <u>loam over clay on rock - D1</u> , with <u>deep moderately calcareous loam - A3</u> .
JMk	0.2	Plains	D4	D	Plains with stony clay loamy soils formed on clayey alluvium. Slopes are less than 1%. Up to 20% is gullied, around 50% is scalded. Main soils: <u>clay loam over red clay - D2</u> , <u>clay loam over pedaric red clay - D4</u> and <u>gradational calcareous clay loam - A6</u> , with <u>red cracking clay - E2</u> .
JNJ	0.1	Creek flats	D4A6E2	D	Creek flats formed on clayey alluvium.
JNo	0.1	Creek flats	D4A6E2	D	<b>JNJ</b> Creek flats, up to 5% gullied. <b>JNo</b> Creek flats, 10-20% affected by gullyng and 10-50% scalded.
JNtz	7.3	Creek flats	D4A6E2	D	<b>JNtz</b> Creek flats, over 20% affected by gullyng and over 50% scalded. Soils moderately saline. Main soils: <u>clay loam over pedaric red clay - D4</u> , <u>gradational calcareous clay loam - A6</u> and <u>red cracking clay - E2</u> .
JPB	2.8	Gently sloping plains	D4A5	D	Plains and flats formed on outwash sediments derived from fine grained basement rocks.



JPFz	0.4	Plains	D4A5	D	<b>JPB</b> Gently sloping plains. Slopes: 1-3%, relief: less than 9m. <b>JPFz</b> Level plains, 10-50% scalded. Soils moderately saline. <b>JPU</b> Plains, 5-10% gullied. <b>JPU</b> Plains, 10-50% scalded. <b>JPV</b> Gently sloping plains, slopes 1-3%. 5-10% scalded. <b>JPY</b> Creek flats, 10-50% scalded, 10-20% gullied. <b>JPf</b> Plains 5-10% gullied with highly saline soils. <b>JPI</b> Gently sloping plains, slopes 1-3%. 10-20% gullied and 10-50% scalded. Slopes are 1-3%, relief is less than 9m. <b>JPtz</b> Creek flats, severely gullied and scalded, moderately saline. <b>JPu</b> Plains, 10-20% gullied, more than 50% scalded. <b>JPy</b> Creek flats, 10-20% gullied and more than 50% scalded. Main soils: <u>clay loam over pedaric red clay - D4</u> and <u>rubbly calcareous loam on clay - A5</u> , with <u>deep gradational clay loam - C3</u> .	
JPJ	0.6	Plains	D4A5	D		
JPU	0.8	Plains	D4A5	D		
JPV	1.4	Gently sloping plains	D4A5	D		
JPY	0.9	Creek flats	D4A5	D		
JPf	0.1	Plains	D4A5	D		
JPI	5.9	Gently sloping plains	D4A5	D		
JPtz	0.5	Creek flats	D4A5	D		
JPu	1.5	Plains	D4A5	D		
JPy	0.7	Creek flats	D4A5	D		
JVV	0.7	Pediments	D4D2C1	D	Gently sloping pediments formed on medium grained outwash sediments. Main soils: <u>clay loam over pedaric red clay - D4</u> , <u>clay loam over red clay - D2</u> and <u>gradational sandy loam - C1</u> .	
KFB	1.0	Pediments	A5	D	<b>KFB</b> Gently sloping pediments, slopes 1-3%. <b>KFLz</b> Gently sloping pediments, slopes 1-3%. 10-20% of land affected by gullyng and 10-50% scalded. Soils moderately saline. <b>KFU</b> Plains. 10-50% scalded. <b>KFV</b> Gently sloping pediments, 1-3% slope. 5-10% scalded. <b>KFtz</b> Creek flats. Over 20% affected by gullyng and more than 50% scalded. Soils highly saline. Main soils: <u>rubbly calcareous clay loam on clay - A5</u> , with <u>clay loam over pedaric red clay - D4</u> .	
KFLz	0.3	Pediments	A5	D		
KFU	1.9	Plains	A5	D		
KFV	6.2	Pediments	A5	D		
KFtz	0.9	Creek flats	A5	D		
KGA	0.2	Plains	C3C1	D		<b>KGA</b> Plains. <b>KGB</b> Gently undulating pediments, 1-3% slope. <b>KGE</b> Creek flats. <b>KGF</b> Plains, 10-20% affected by gullyng. <b>KGG</b> Gently undulating pediments, 1-3% slope. 10-20% affected by gullyng. <b>KGJ</b> Creek flats, 10-20% affected by gullyng <b>KGV</b> Gently undulating pediments, 1-3% slope. 5-10% scalded. <b>KGk</b> Plains. 10-20% affected by gullyng and 10-50% scalded. <b>KGI</b> Gently undulating pediments, 1-3% slope. 10-20% affected by gullyng and 5-10% scalded. Main soils: <u>deep gradational sandy clay loam - C3</u> and <u>gradational sandy loam - C1</u> .
KGB	6.6	Gently undulating pediments	C3C1	D		
KGE	1.0	Creek flats	C3C1	D		
KGF	0.4	Plains	C3C1	D		
KGG	0.1	Gently undulating pediments	C3C1	D		
KGJ	1.2	Creek flats	C3C1	D		
KGV	0.1	Gently undulating pediments	C3C1	D		
KGk	0.5	Plains	C3C1	D		
KGI	0.8	Gently undulating pediments	C3C1	D		
KHA	0.9	Plains	A4D4C1	D	<b>KHA</b> Plains. <b>KHB</b> Gently undulating pediments. <b>KHF</b> Plains, 10-20% affected by gullyng. Main soils: <u>deep (rubbly) calcareous sandy loam - A4</u> , <u>clay loam over pedaric red clay - D4</u> and <u>gradational sandy loam - C1</u> .	
KHB	4.1	Gently undulating pediments	A4D4C1	D		
KHF	0.8	Plains	A4D4C1	D		
KJH	0.5	Undulating pediments	C4C3A6	D		



					<b>A5 and clay loam over pedaric red clay - D4.</b>
KKB	0.2	Gently undulating pediments	A6A5	D	Pediments and plains formed on clayey outwash sediments. <b>KKB</b> Gently undulating pediments, 1-3% slope.
KKk	0.3	Plains	A6A5	D	<b>KKk</b> Plains, 5-10% affected by gullying and 10-50% scalded. Main soils: <u>gradational calcareous clay loam - A6</u> and <u>rubbly calcareous clay loam on clay - A5</u> , with <u>deep gradational clay loam - C3</u> and <u>red cracking clay - E2</u> .
KLA	<0	Plains	A5	D	Pediments formed on fine grained outwash and associated weathering rocks. <b>KLA</b> Plains. <b>KLB</b> Gently undulating pediments, 1-3% slope.
KLB	0.3	Pediments	A5	D	
KLE	0.1	Creek flats	A5	D	<b>KLE</b> Creek flats.
KLG	11.0	Pediments	A5	D	<b>KLG</b> Gently undulating pediments, 1-3% slope. 10-20% affected by gullying. Main soils: <u>rubbly calcareous loam on clay - A5</u> , with <u>shallow calcareous clay loam on rock - A2</u> , <u>gradational loam on rock - C2</u> and <u>shallow calcareous loam on calcrete - B2</u> .
KMA	0.2	Plains	A5D4	D	Plains formed on fine grained outwash sediments. Main soils: <u>rubbly calcareous clay loam on clay - A5</u> and <u>loam over pedaric red clay - D4</u> .
KOB	2.0	Gently sloping pediments	A6A5	D	Gently sloping pediments formed on fine grained outwash sediments, 1-3% slope. Main soils: <u>gradational calcareous clay loam - A6</u> and <u>rubbly calcareous clay loam on clay - A5</u> , with <u>clay loam over pedaric red clay - D4</u> and <u>deep (rubbly) calcareous loam - A4</u> .
KPLz	0.1	Gently sloping pediments	A3A4	D	Gently sloping pediments formed on medium to coarse textured sediments, 1-3% slope. 10-20% of land is gullied, 5-10% is scalded and soils are highly saline. Main soils: <u>deep moderately calcareous sandy loam - A3</u> and <u>deep (rubbly) calcareous sandy loam - A4</u> .
KQV	0.4	Pediments	A5	V	Gently undulating pediments (1-3% slope) with 20-30% basement rock rises. 5-10% of pediment land is scalded. Main soils: <b>Pediments:</b> <u>rubbly calcareous loam on clay - A5</u> , with <u>loam over pedaric red clay - D4</u> . <b>Rises:</b> <u>shallow calcareous loam - A2</u> , with <u>shallow calcareous loam on calcrete - B2</u> and <u>rock outcrop - RR</u> .
		Low rises	A2	C	
KVB	0.5	Gently sloping plains	A6	D	Gently sloping plains formed on fine grained outwash sediments. Slopes are 1-3%. Main soils: <u>gradational calcareous clay loam - A6</u> , with <u>rubbly calcareous loam on clay - A5</u> and <u>deep moderately calcareous loam - A3</u> .
KbV	1.0	Gently sloping plains	A6C3	D	Gently sloping plains formed on clayey alluvium. Slopes are 1-3%. 5-10% of land is scalded. Main soils: <u>gradational calcareous clay loam - A6</u> and <u>deep gradational clay loam - C3</u> .
KcB	0.5	Gently undulating pediments	A5D4C1	D	Pediments and flats formed on clayey alluvium. <b>KcB</b> Gently sloping pediments, 1-3% slope. <b>KcE</b> Creek flats.
KcE	0.2	Creek flats	A5D4C1	D	Main soils: <u>rubbly calcareous clay loam on clay - A5</u> , <u>clay loam over pedaric red clay - D4</u> and <u>gradational sandy loam - C1</u> .
KdB	0.2	Gently undulating pediments	C3	D	Pediments formed on clayey outwash. <b>KdB</b> Gently sloping pediments, 1-3% slope. <b>KdV</b> Gently sloping pediments, 1-3% slope. 5-10% scalded.
KdV	1.4	Gently undulating pediments	C3	D	Main soils: <u>deep gradational clay loam - C3</u> with <u>clay loam over pedaric red clay - D4</u> and <u>gradational calcareous clay loam - A6</u> .



SHB	0.1	Gently undulating rises	A3	D	Gently undulating rises formed on calcareous aeolian calcareous sediments. <b>SHB</b> Gentle rises. 1-3% slope, relief 9-30m.
SHC	0.1	Undulating rises	A3	D	<b>SHC</b> Undulating rises. 3-10% slope, relief 9-30m. Main soils: <u>deep moderately calcareous loamy sand - A3b</u> , with <u>loamy sand over sandy clay loam - G1</u> or <u>sand over poorly structured clay - G4</u> and <u>loam over pedaric red clay - D4</u> .
UtD	0.4	Low dunes	H2	D	Low dunes of deep red siliceous sands. Main soils: <u>deep red sand - H2</u> , with <u>sand over poorly structured clay - G4</u> on lower slopes.
XA-	0.4	Flood plains	M1M3 D4	D	Flood plains formed on silty alluvium. Main soils: <u>deep alluvial loam - M1</u> , <u>deep gravelly sandy loam - M3</u> and <u>loam over pedaric red clay - D4</u> .
XAA	17.9	Flood plains	M1M3 D4	D	Flood plains on mixed alluvium. Main soils: <u>deep alluvial loam - M1</u> , <u>deep gravelly sandy loam - M3</u> and <u>loam over pedaric red clay - D4</u> .
XQA	0.6	Alluvial plains	C5E3	D	Alluvial plains formed on clayey alluvium which may be gypseous. Main soils: <u>gradational dark clay loam - C5</u> and <u>grey-brown cracking clay - E3</u> , with <u>clay loam over poorly structured brown clay - F2</u> , <u>gradational calcareous clay loam - A6</u> and <u>gypseous calcareous loam - A8</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** Shallow calcareous loam to sandy loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)  
Calcareous stony loam to sandy loam grading to soft or rubbly carbonate over weathering dolomite or calc-siltstone within 50 cm.
- A3a** Deep moderately calcareous loam to sandy 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.
- A3b** Deep moderately calcareous loamy sand (Regolithic, Calcic Calcarosol)  
Loamy sand grading to a moderately calcareous red sandy clay loam over highly calcareous windblown deposits.
- 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 clay loam on clay (Regolithic, Supracalcic / Hypercalcic Calcarosol)  
Calcareous loam to clay 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.
- A6** Gradational calcareous clay loam (Pedal, Hypercalcic / Supracalcic Calcarosol)  
Calcareous clay loam grading to a well structured very highly calcareous (sometimes rubbly) clay, over a red clayey substrate within 120 cm.
- A8** Gypseous calcareous loam (Gypsic Calcarosol)  
Calcareous loam grading to a highly calcareous clay loam to light clay over highly gypseous light clay at between 50 and 100 cm.



- B2** Shallow calcareous sandy loam to loam on calcrete (Petrocalcic, Calcic / Lithocalcic Calcarosol)  
Stony calcareous sandy loam to loam, often with a very highly calcareous more clayey subsoil, over sheet calcrete within 50 cm. This grades to rubbly carbonate over weathering basement rock within 150 cm.
- C1** Gradational sandy loam (Hypercalcic, Red Kandosol)  
Friable sandy to loamy topsoil grading to massive red-brown alkaline loamy to clay loamy subsoil, highly calcareous with depth, over alluvium.
- 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** Deep gradational sandy clay loam to clay loam (Calcic / Hypercalcic Red Dermosol)  
Sandy clay loam to clay loam grading to a friable red clay with abundant soft Class I carbonate within 50 cm, overlying alluvium within 100 cm.
- C4** Hard gradational clay loam (Sodic, Hypercalcic, Red Dermosol)  
Hard setting clay loam grading to a coarsely structured dispersive red clay, highly calcareous with depth, over clayey alluvium. Includes eroded former texture contrast soils.
- C5** Gradational dark clay loam (Hypercalcic, Brown / Grey Dermosol)  
Dark clay loam grading to a well structured dark brown or grey clay, highly calcareous with depth, over alluvium.
- D1** Loam to sandy loam over clay on rock (Hypercalcic / Calcic, Red Chromosol)  
Medium thickness hard gravelly loam to sandy loam over a friable and finely structured red clay, calcareous with depth, grading to weathering basement rock within 100 cm.
- D2** Clay loam over red clay (Calcic / Hypercalcic, Red Chromosol)  
Hard setting clay loam (with variable quartzite stones) abruptly overlying a well structured red clay with soft Class I carbonate at depth.
- D4** Loam to clay loam over red friable 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.
- D7** Loam over poorly structured clay on rock (Calcic / Hypercalcic, Red Sodosol)  
Medium to thick hard sandy loam to clay loam sharply overlying a coarsely structured dispersive red clay, calcareous with depth, grading to highly weathered kaolinized siltstone or quartzite.
- E2** Red cracking clay (Epicalcareous, Epipedal, Red Vertosol)  
Dark red strongly structured clay grading to a well structured red calcareous medium to heavy clay continuing below 100 cm. Gypsum segregations often occur in subsoil.
- E3** Grey-brown cracking clay (Epicalcareous-Endohypersodic, Massive, Grey / Brown Vertosol)  
Grey brown coarsely structured clay grading to a very coarsely structured grey-brown calcareous medium to heavy clay continuing below 100 cm. Gypsum segregations often occur in subsoil.
- F2** Clay loam over poorly structured brown clay (Calcic, Brown Sodosol)  
Medium thickness hard clay loam over a coarsely structured dispersive brown clay, calcareous at depth, grading to clayey alluvium.
- G1** Loamy sand over sandy clay loam (Calcic / Supracalcic, Red Kandosol)  
Thick reddish loamy sand over a red clayey sand to sandy clay loam, calcareous with depth, grading to clayey sand below 150 cm.
- G4** Sand over poorly structured clay (Calcic, Brown / Red Sodosol)  
Medium thickness sand with a bleached subsurface layer, abruptly overlying a coarsely columnar red to brown sandy to medium clay, highly calcareous from shallow depth.



- H2** Deep red sand (Calcareous, Arenic, Red-Orthic Tenosol)  
Thick to very thick loose red sand overlying a yellowish red calcareous clayey sand.
- L1a** Shallow stony loam (Paralithic, Leptic Tenosol)  
Shallow stony loam, often calcareous with depth, overlying weathering fine grained rock shallower than 50 cm.
- L1b** Shallow stony sandy loam (Paralithic, Leptic Tenosol)  
Shallow stony sandy loam, often calcareous with depth, overlying weathering fine to medium grained sandstone or tillite shallower than 50 cm.
- M1** Deep alluvial loam (Calcareous, Regolithic, Brown-Orthic Tenosol)  
Very thick brown sandy loam to loam, usually calcareous with depth, continuing below 100 cm.
- M3** Deep gravelly sandy loam (Basic, Fluvic, Clastic Rudosol OR Basic, Regolithic, Red-Orthic Tenosol)  
Thick to very thick sandy loam with more than 50% quartzite stones overlying boulder beds.
- RR** Rock outcrop.

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

