

# BUF Butterfields Land System

**Area:** 175.9 km<sup>2</sup>

**Landscape:** The landscape consists of gently sloping pediments with reddish sandy duplex soils, which can be ironstone gravelly in the south. There are some calcareous soils on pediments and over calcareous rocks on rises. Extensive broad pediments which form an arc around the Eke land system ranges. Typically the soils have red sandy surface over clay or are grey calcareous loams. Rock outcrops on rises occasionally. Elongate, grey calcareous outwash stream deposits overlie the pediment in places. Scalded areas are typical of footslopes.

**Annual rainfall:** 235 – 320 mm average, with the higher rainfall on the western slopes

**Geology:** Tapley Hill Formation calcareous siltstones form the hard rock rises on upper slopes. These yield calcareous detrital materials which form the pediments and, eventually, alluvial plains lower in the landscape.

**Relief:** Mostly less than 30 m

**Soils:** Gradational sandy loams to clay loams, both calcareous and non calcareous, formed on pediment and plains outwash sediments comprise almost half of the area. A variety of shallow loamy soils formed on basement rocks occur on rising ground.

#### Main soils (formed on outwash)

- A5** Rubbly calcareous loam to clay loam on clay
- C3** Friable gradational (sandy) clay loam
- C1** Gradational sandy loam

#### Minor soils

##### *Basement rock rises*

- A2** Shallow calcareous loam to clay loam
- B2** Shallow calcareous loam on calcrete
- B4** Shallow red loam on calcrete
- C2** Gradational loam to clay loam on rock
- D1** Loam to clay loam over red clay on rock
- D7** Sandy loam to loam over poorly structured clay on rock
- L1** Shallow stony loam

##### *Pediments and plains on outwash sediments*

- A3** Deep moderately calcareous sandy loam to loam
- A4** Deep (rubbly) calcareous sandy loam
- A6** Gradational calcareous clay loam to loam
- C4** Hard gradational clay loam
- D2** Loam to clay loam over red clay
- D4** Loam to clay over pederic red clay
- D5** Hard loamy sand over red clay
- E2** Red cracking clay
- J1** Ironstone gravelly clay loam over brown clay
- M1** Deep alluvial loam
- M3** Deep gravelly soil



**Summary:**

The Butterfields Land System is named after a nearby property. It consists of gently sloping pediments forming an arc around the Eke land system, northeast of Orroroo. Pediments have reddish sandy duplex soils, often ironstone gravelly, and shallow calcareous soils on rocky rises. Scalding is more common on lower slopes, where subsoils are also moderately saline.

**Soil Landscape Unit summary:** 80 Soil Landscape Units (SLUs) mapped in the Butterfields Land System:

SLU	% of area	Component	Main soils	Prop#	Notes
ADA	1.3	Undulating rises	C2L1 A2	D	Non arable rocky rises formed on limestones and calc-siltstones such as Skillogalee Dolomite with very shallow loamy soils.
ADB	0.1	Rolling rises	L1	D	<b>ADA</b> Undulating rises. Relief is less than 30m, slopes are 3-10%.
ADG	0.1	Undulating rises	C2L1 A2	D	<b>ADB</b> Rolling rises. Relief is 9-30m, slopes are 10-30%. <b>ADG</b> Undulating rises with eroded watercourses.
ADH	0.5	Rolling rises	L1	D	Relief is less than 30m, slopes are 3-10%. <b>ADH</b> Rolling rises with eroded watercourses. Relief: 9-30m, slopes: 10-30%. Main soils: <u>shallow stony loam</u> - <b>L1</b> , <u>gradational loam on rock</u> - <b>C2</b> and <u>shallow calcareous loam</u> - <b>A2</b> . Non arable, limited pastoral use.
DNG	1.2	Gently undulating rises	D1	D	Rises formed on fine grained rocks, typically Brachina Shale Formation. The soils are mostly texture contrast with clay loamy surface textures.
DNk	0.7	Plains	D1	D	<b>DNG</b> Gently undulating rises. 10-20% gullied and 0-5% scalded. Moderate subsoil salinity. Slopes are 1-3%, relief is less than 30m.
DNm	1.9	Gently undulating rises	D1	D	<b>DNk</b> Plains. 5-10% gullied, 10-50% scalded; subsoils moderately saline. <b>DNm</b> Gently undulating rises with slopes: 1-3%; relief: less than 30 m. 10-20% gullied, 5-10% scalded and subsoils are moderately saline. Main soils: <u>clay loam over (pedaric) red clay on rock</u> - <b>D1</b> , with <u>loam over red clay</u> - <b>D2</b> and <u>red cracking clay</u> - <b>E2</b> .
EFB	1.6	Gently undulating rises	A2D7 L1	D	Rises and plains with moderately shallow soils overlying hard calcareous rocks, typically Hawker Group siltstones and limestones.
EFD	0.3	Rolling rises	D7L1	D	<b>EFB</b> Gently undulating rises with minor scalding. Slopes are 1-3%, relief is less than 30m.
EFH	0.1	Undulating rises	A2D7 L1	D	<b>EFD</b> Rolling rises with minor scalding. Relief: 9-30m, slopes: 10-30%.
EFI	0.9	Rolling rises	D7L1	D	<b>EFH</b> Undulating rises. Relief is less than 30m, slopes are 3-10%. More than 20% is gullied (severe). <b>EFI</b> Rolling rises. Relief is 9-30m, slopes are 10-30%. 5-10% gullied, 0-5% scalded. Main soils: <u>sandy loam over poorly structured clay on rock</u> - <b>D7</b> , <u>shallow calcareous loam</u> - <b>A2</b> and <u>shallow stony loam</u> - <b>L1</b> .
EHB	1.2	Gently sloping plains	A2	V	Rises and pediments on calcareous siltstones and limestones of the Tapley Hill, Wonoka and Bunyeroo Formations and Wilpena Group. <b>EHB</b> Gently sloping plains, slopes of 1-3%, with 10-20% rocky outcrops, slopes 3-10%. <b>EHH</b> Undulating pediments, slopes of 3-10%, with 10-20% rocky rises. Gullyng affects up to 20% of land, 0-5% is scalded and subsoils have moderate salinity. Main soils: <b>Plains and Pediments:</b> <u>shallow calcareous loam</u> - <b>A2</b> , with <u>loam over poorly structured clay on rock</u> - <b>D7</b> and <u>shallow stony loam</u> - <b>L1</b> . <b>Rocky rises:</b> <u>shallow stony loam</u> - <b>L1</b> and <u>rock outcrop</u> - <b>RR</b> .
		Rocky outcrops	RR	L	
EHH	2.5	Undulating pediments	A2	V	
		Rocky outcrops	RR	L	
ELB	0.4	Gently undulating rises	L1C2 B2	D	Complex of gently undulating rises and pediments with shallow soils formed on Appila Tillite Formation and alluvium. <b>ELB</b> Gently undulating rises and pediments. Slopes: 1-3%, relief: 9-30m.



ELC	0.5	Undulating rises	L1C2 B2	D	<b>ELC</b> Undulating rises and pediments. Slopes are 3-10%, relief is 9-30m. Main soils: <u>shallow stony loam - L1</u> , <u>shallow gradational loam on rock - C2</u> and <u>shallow calcareous loam on calcrete - B2</u> , with <u>shallow calcareous loam - A2</u> and <u>shallow red loam on calcrete - B4</u> .
ESB	0.2	Gently undulating rises	A2 A5	V	Hills and rises with shallow loamy surface soils on calcareous shales and limestone rocks of the Wonoka Formation. <b>ESB</b> Gently undulating rises with rocky outcrops. Up to 5% of land is affected by gullying and scalding. Subsoils are moderately saline. Slopes are 1-3%, relief is 9-30m.
		Rocky outcrops	RR	C	
ESC	0.4	Undulating rises	A2 A5	V	<b>ESC</b> Undulating rises with rocky outcrops. Up to 5% of land is affected by gullying. Slopes are 3-10%, relief is 9-30m. Main soils: <b>Undulating rises:</b> <u>shallow calcareous loam - A2</u> and <u>rubbly calcareous loam on clay - A5</u> <b>Rocky outcrops:</b> <u>rock outcrop - RR</u> with <u>shallow stony loam - L1</u> .
		Rocky outcrops	RR	C	
EUB	0.1	Gently undulating rises	L1C2 A2	D	Rises with a complex of clay loamy soils formed over fine grained rocks. <b>EUB</b> Gently undulating rises. Slopes are 1-3%, relief is 9-30m.
EUC	0.1	Undulating rises	L1C2 A2	D	<b>EUC</b> Undulating rises. Slopes are 3-10%, relief is 9-30m. Main soils: <u>shallow stony loam - L1</u> , <u>gradational clay loam on rock - C2</u> and <u>shallow calcareous clay loam - A2</u> .
EVI	0.5	Rolling rises	A2	V	Rolling rises with rock outcrops and shallow calcareous soils formed on fine-grained calcareous rocks. More than 20% of land is gullied. Relief is 9-30m, slopes are 10-30%. Main soils: <u>shallow calcareous loam - A2</u> , with <u>rock outcrop - RR</u> , <u>rubbly calcareous loam on clay - A5</u> , <u>shallow calcareous loam on calcrete - B2</u> and <u>shallow stony loam - L1</u> .
		Rocky outcrops	RR	C	
EZB	1.9	Gently undulating rises	A2 A5B2	V	Rises with mostly shallow calcareous soils on weathered siltstones of the Tapley Hill Formation and the Tarcowie Siltstone. <b>EZB</b> Gently undulating rises with rocky outcrops. Up to 5% of land is gullied and/or scalded. Subsoils are moderately saline. Slopes are 1-3%, relief is less than 30m.
		Rocky outcrops	RR	C	
EZG	0.1	Gently undulating rises	A2 A5B2	V	<b>EZG</b> Gently undulating rises with rocky outcrops. 10-20% of land is gullied and 5-10% is scalded. Subsoils are moderately saline. Slopes are 1-3%, relief is less than 30m. <b>EZH</b> Undulating rises with rocky outcrops. Gullying affects 10-20% of land. Slopes are 3-10%, relief is less than 30m.
		Rocky outcrops	RR	C	
EZH	0.5	Undulating rises	A2 A5B2	V	<b>EZW</b> Undulating rises with rocky outcrops. Gullying affects 5-10% of land, scalding affects around 10-50%. Subsoils are moderately saline. Slopes are 3-10%, relief is less than 30m. Main soils: <b>Rises:</b> <u>shallow calcareous loam - A2</u> , <u>rubbly calcareous loam on clay - A5</u> and <u>shallow calcareous loam on calcrete - B2</u> . <b>Rocky outcrops:</b> <u>rock outcrop - RR</u> , with <u>shallow stony loam - L1</u> and <u>shallow calcareous loam on calcrete - B2</u> .
		Rocky outcrops	RR	C	
EZW	0.6	Undulating rises	A2 A5B2	V	
		Rocky outcrops	RR	C	
JFB	1.2	Gently undulating pediments	D2 D4C1	D	Pediments formed on fine grained outwash sediments with clay loamy soils. <b>JFB</b> Gently undulating pediments. Slopes: 1-3%, relief: < 9m.
JFJ	0.6	Drainage lines	D2D4 C1	D	<b>JFJ</b> Drainage line with 5-10% gullied banks and 0-5% scalding. Subsoils are moderately saline.
JFU	0.5	Plains	D2D4 C1	D	<b>JFU</b> Plains with 5-10% gullied land and 10-50% scalding. Subsoils are moderately saline. Main soils: <u>clay loam over red clay - D2</u> , <u>clay loam over pederic red clay - D4</u> and <u>gradational sandy loam - C1</u> .
JIU	0.5	Plains	D1D4 A5	D	Gently sloping alluvial plains with red texture contrast and calcareous soils.



JII	0.3	Gently sloping plains	D4D1 A5	D	<p><b>JII</b> Plain with 10-50% scalding and 0-5% gullyng. Subsoils are moderately saline.</p> <p><b>JII</b> Gently sloping alluvial plain. Gullyng affects 5-50% of land, most severe along watercourses. Scalding affects over 50% of land. Subsoils are moderately saline. Slopes: 1-3%, relief: &lt; 9m. Main soils: <u>loam over pedaric red clay - D4</u>, <u>loam over clay on rock - D1</u> and <u>rubbly calcareous loam on clay - A5</u>, with <u>deep moderately calcareous loam - A3</u> and <u>shallow calcareous loam on calcrete - B2</u>.</p>
JNB	1.5	Gently sloping pediments	D4D2 A5	D	<p>Pediments with mostly clay loamy soils formed on fine grained outwash sediments.</p> <p><b>JNB</b> Gently sloping pediments. Slopes: 1-3%, relief: less than 9m.</p>
JNU	2.9	Plains	D4D2 A5	D	<p><b>JNU</b> Level plain; 5-10% scalded.</p> <p><b>JNV</b> Gently sloping pediments. Scalding affects 10-50% of land. Slopes are 1-3%, relief is less than 9m.</p>
JNV	2.0	Gently sloping pediments	D4D2 A5	D	<p><b>JNY</b> drainage line with 5-10% scalding and up to 5% gullyng.</p> <p><b>JNI</b> Gently sloping pediment plain; gullyng affects up to 50% of land, most severe along watercourses. Scalding affects nearly 50% of land. Subsoils are moderately saline. Slopes: 1-3%, relief: &lt; 9m.</p>
JNY	0.5	Drainage line	D4D2 A5	D	<p><b>JNo</b> Creek flat 10-20% affected by gullyng and 10-50% scalded. Scalding may be more than 50% locally. Subsoils: moderately saline. Main soils: <u>clay loam over red clay - D2</u>, <u>clay loam over pedaric red clay - D4</u> and <u>rubbly calcareous loam on clay - A5</u>, with <u>red cracking clay - E2</u>.</p>
JNI	0.1	Gently sloping pediments	D4D2 A5	D	
JNo	0.8	Creek flats	D4D2 A5	D	
JOA	0.3	Plains	JID4	D	<p>Pediments formed on fine grained outwash or deep weathering materials, with clay loamy soils, some ironstone gravelly.</p> <p><b>JOA</b> Plains.</p>
JOB	2.2	Gently undulating plains	JID4	D	<p><b>JOB</b> Gently undulating plains. Slopes: 1-3%, relief: less than 9m.</p>
JOU	1.7	Plains	JID4	D	<p><b>JOU</b> Plains with 10-50% scalding and 0-5% gullyng. Subsoils are moderately saline.</p>
JOV	<0.1	Gently undulating plains	JID4	D	<p><b>JOV</b> Gently undulating plains with 10-50% scalding and up to 5% gullyng. Slopes are 1-3%, relief is less than 9m. Main soils: <u>ironstone gravelly clay loam over brown clay - J1</u> and <u>clay loam over pedaric red clay - D4</u>.</p>
KCV	4.1	Pediments	C3A3	D	<p>Gently undulating pediments with sandy clay loam surfaced gradational soils formed on medium to fine grained outwash. 10-50% of land is scalded; 5-10% gullied. Slopes: 1-3%, relief: &lt; 9m. Main soils: <u>friable gradational sandy clay loam - C3</u> and <u>deep moderately calcareous loam - A3</u>, with <u>deep gravelly soil - M3</u> on creek flats.</p>
KEB	2.0	Gently undulating pediments	C3C1	D	<p>Pediments and plains formed on outwash sediments with mostly loamy gradational soils.</p> <p><b>KEB</b> Gently undulating pediments with minor scalding and gullyng. Slopes are 1-3%, relief is less than 9m.</p>
KEG	1.1	Gently undulating pediments	C3C1	D	<p><b>KEG</b> Gently undulating pediments with 10-50% scalding and 5-10% gullyng. Slopes are 1-3%, relief is less than 9m. Main soils: <u>friable gradational clay loam - C3</u> and <u>gradational sandy loam - C1</u>, with <u>loam over red clay - D2</u>.</p>
KFA	10.8	Plains	A5	D	<p>Pediments with clay loamy gradational soils formed on fine grained outwash.</p> <p><b>KFA</b> Plains.</p>
KFI	0.6	Pediments	A5	D	<p><b>KFI</b> Gently undulating pediment with 10-20% gullied land and 5-10% scalded. Moderate subsoil salinity occurs. Slopes: 1-3%, relief: &lt; 9m. Main soils: <u>rubbly calcareous clay loam on clay - A5</u> with <u>clay loam over pedaric red clay - D4</u>.</p>
KGB	2.0	Gently undulating pediments	C3 C1	D	<p>Pediments and plains with sandy clay loam surfaced gradational soils formed on outwash sediments.</p> <p><b>KGB</b> Gently undulating pediments, with minor scalding and gullyng. Subsoils: moderately saline. Slopes: 1-3%, relief: &lt; 9m.</p>
KGE	1.3	Creek flat	C3C1	D	<p><b>KGE</b> Creek flat with stable gullied banks. Subsoils moderately saline.</p>
KGF	0.2	Plains	C3C1	D	<p><b>KGF</b> Plains with 5-10% scalded and 0-5% gullied land. Subsoils are moderately saline.</p>
KGG	3.8	Gently undulating pediments	C3C1	D	<p><b>KGG</b> Gently undulating pediments, with 5-10% of land affected by gullyng and 0-5% scalded. Subsoils are moderately saline. Slopes are</p>
KGH	0.1	Undulating	C3	D	



		pediments	C1		1-3%, relief is less than 9m.
KGV	4.8	Gently undulating pediments	C3C1	D	<b>KGH</b> Undulating pediments, with 0-5% of land affected by gullyng and 5-10% scalded. Subsoils are moderately saline. <b>KGV</b> Gently undulating pediments with 10-50% scalding and minor gullyng. Subsoils are moderately saline. Slopes: 1-3%, relief: <9m.
KGY	0.4	Creek flat	C3C1	D	<b>KGY</b> Creek flat with stable gullies and 5-10% scalding. Subsoils are moderately saline.
KGk	1.0	Plains	C3C1	D	<b>KGk</b> Plains with more than 20% gullied land and 10-50% scalded. Subsoils are moderately saline.
KGI	0.4	Gently undulating pediments	C3C1	D	<b>KGI</b> Gently undulating pediments with 10-50% scalding and 10-20% gullyng which is locally more severe along drainage lines. Subsoils are moderately saline. Slopes: 1-3%, relief: less than 9m. Main soils: <u>friable gradational sandy clay loam</u> - <b>C3</b> and <u>gradational sandy loam</u> - <b>C1</b> .
KHE	1.1	Drainage lines	A4D4 C1	D	Drainage line on gently undulating pediments formed on outwash. Slopes are 1-3%, relief is less than 9m. Main soils: <u>deep (rubbly) calcareous sandy loam</u> - <b>A4</b> , <u>loam over pedaric red clay</u> - <b>D4</b> and <u>gradational sandy loam</u> - <b>C1</b> .
KJB	0.2	Gently undulating pediments	C4C3 A6	D	Pediments with clay loamy gradational soils formed on fine grained outwash. Subsoils are moderately saline. <b>KJB</b> Gently undulating pediments. Slopes: 1-3%, relief: less than 9m.
KJG	1.7	Gently undulating pediments	C4C3 A6	D	<b>KJG</b> Gently undulating pediments with up to 20% gullyng. Slopes are 1-3%, relief is less than 9m.
KJH	3.3	Undulating pediments	C4C3 A6	D	<b>KJH</b> Undulating pediments with up to 20% gullyng. Slopes are 3-10%, relief is less than 9m.
KJJ	0.2	Drainage lines	C4C3 A6	D	<b>KJJ</b> Drainage line with more than 20% gullyng.
KJV	0.3	Gently undulating pediments	C4C3 A6	D	<b>KJV</b> Gently undulating pediments with up to 50% scalding and less than 5% gullyng. Slopes are 1-3%, relief is less than 9m.
KJW	0.6	Undulating pediments	C4C3 A6	D	<b>KJW</b> Undulating pediments with 0-5% gullyng and 5-10% scalding. Slopes are 3-10%, relief is less than 9m. Main soils: <u>hard gradational clay loam</u> - <b>C4</b> , <u>friable gradational clay loam</u> - <b>C3</b> and <u>gradational calcareous clay loam</u> - <b>A6</b> , with <u>rubbly calcareous clay loam on clay</u> - <b>A5</b> and <u>clay loam over pedaric red clay</u> - <b>D4</b> .
KLB	4.3	Gently undulating pediments	A5	D	Pediments formed on a complex of outwash sediments and fine grained basement rocks. Soils are mostly calcareous loams. Subsoils are moderately saline.
KLC	0.7	Undulating pediments	A5	D	<b>KLB</b> Gently undulating pediment. Slopes: 1-3%, relief: < 9m.
KLE	3.7	Drainage lines	A5	D	<b>KLC</b> Undulating pediment. Slopes are 3-10%, relief is less than 9m.
KLG	0.5	Gently undulating pediments	A5	D	<b>KLE</b> Drainage line.
KLH	1.0	Undulating pediments	A5	D	<b>KLG</b> Gently undulating pediment with 5-10% gullyng. Slopes are 1-3%, relief is less than 9m.
KLJ	2.2	Drainage lines	A5	D	<b>KLH</b> Undulating pediment; gullyng affects 5-10% of land, around 5% is scalded. Slopes are 3-10%, relief is less than 9m.
KLU	0.2	Plains	A5	D	<b>KLJ</b> Drainage line with 0-5% gullied, severe in places, and 0-5% scalding.
KLW	1.3	Undulating pediments	A5	D	<b>KLU</b> Level plains with 5-10% scalding.
KLI	0.4	Gently undulating pediments	A5	D	<b>KLW</b> Gently undulating pediment with 0-5% gullyng and 5-10% scalding. Slopes are 1-3%, relief is less than 9m.
KLm	1.4	Undulating pediments	A5	D	<b>KLW</b> Undulating pediment, around 5% of land is scalded. Slopes are 3-10%, relief is less than 9m.
KMG	2.4	Pediments	A6A5	D	<b>KLI</b> Gently undulating pediment with over 20% gullyng and 5-10% scalding. Slopes are 1-3%, relief is less than 9m.
					<b>KLm</b> Undulating pediment with 5-10% of land scalded and 5-10% gullied. Slopes are 3-10%, relief is less than 9m. Main soils: <u>rubbly calcareous loam on clay</u> - <b>A5</b> on outwash, with <u>shallow calcareous loam</u> - <b>A2</b> , <u>gradational loam on rock</u> - <b>C2</b> and <u>shallow calcareous loam on calcrete</u> - <b>B2</b> formed on rock.
					Gently sloping pediments formed on outwash sediments with mainly loamy soils. Subsoils are moderately saline. Slopes: 1-3%, relief: < 9m. Main soils: <u>gradational calcareous loam</u> - <b>A6</b> and <u>rubbly calcareous</u>



					<u>loam on clay - A5, with loam over red clay - D2.</u>
KQV	0.1	Pediments Low rises	A5A2	V C	Complex of gently undulating pediments and low basement rock rises with mostly calcareous gradational soils. Up to 10% of pediment land is scalded, and around 5% is gullied. Rises are generally not gullied and scalding occurs on less than 5%. Slopes: 1-3%, relief: less than 9m. Main soils: <u>rubbly calcareous clay loam on clay - A5</u> with <u>clay loam over pedaric red clay - D4</u> on pediments, and <u>shallow calcareous loam - A2</u> with <u>shallow calcareous loam on calcrete - B2</u> and <u>rock outcrop - RR</u> on rises.
KXJ	0.5	Drainage lines	C1	D	Drainage lines with sandy loam surfaced gradational soils formed in sandy alluvium.
KXJJ	0.5	Drainage lines	C1	D	<b>KXJ</b> Drainage line with 10-20% gullied land and 0-5% scalded. <b>KXJJ</b> Drainage line with over 20% gullied land. Subsoils are moderately saline.
KXY	0.3	Drainage lines	C1	D	<b>KXY</b> Drainage line with stable gullies and 5-10% scalded land. Subsoils are moderately saline. Main soils: <u>gradational sandy loam - C1</u> , with <u>rubbly calcareous clay loam on clay - A5</u> and <u>deep moderately calcareous sandy loam - A3</u> .
KIB	0.1	Gently undulating pediments	C1D5	D	Pediments with sandy loam surfaced soils formed on coarse to medium grained outwash sediments. Subsoils are moderately saline. <b>KIB</b> Gently undulating pediments. Slopes: 1-3%, relief: < 9m.
KII	2.6	Gently undulating pediments	C1D5	D	<b>KII</b> Gently undulating pediments with 10-20% gullying and 5-10% scalding. Slopes are 1-3%, relief is less than 9m. Main soils: <u>gradational sandy loam - C1</u> and <u>hard loamy sand over red clay - D5</u> , with <u>loam over pedaric red clay - D4</u> .
XHA	0.5	Alluvial plains	M1C1 C3	D	Alluvial plains and creek flats with mostly loam to sandy loam soils. <b>XHA</b> Alluvial plains
XHB	1.4	Creek flats	M1C1 C3	D	<b>XHB</b> Creek flats with eroded watercourses. Main soils: <u>deep alluvial loam - M1</u> , <u>gradational sandy loam - C1</u> and <u>friable gradational sandy clay loam - C3</u> , with <u>loam over pedaric red clay - D4</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 (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 (Regolithic, Hypercalcic / Lithocalcic Calcarosol)  
Calcareous sandy loam to sandy clay 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 / Lithocalcic Calcarosol)  
Calcareous sandy 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 to loam (Pedal, Hypercalcic / Supracalcic Calcarosol)  
Calcareous loam to clay loam grading to a well structured very highly calcareous (sometimes rubbly) clay, over a red clayey substrate within 120 cm.
- B2** Shallow calcareous 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.



- B4** Shallow red loam on calcrete (Petrocalcic, Red Dermosol / Kandosol)  
Medium thickness loam grading to a friable clay loam over calcrete capped rock within 50 cm or semi-hard carbonate grading to weathering rock within 100 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 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** Friable gradational (sandy) clay loam (Calcic / Hypercalcic Red Dermosol)  
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 loam to clay loam grading to a coarsely structured dispersive red clay, highly calcareous with depth, over clayey alluvium. Includes eroded former texture contrast soils.
- D1** Loam to clay loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol)  
Medium thickness hard gravelly loam to clay loam over a friable and finely structured red clay, calcareous with depth, grading to weathering basement rock within 100 cm.
- D2** Loam to clay 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.
- D4** Loam to clay loam over pedaric red 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.
- D5** Hard loamy sand over red clay (Calcic / Hypercalcic Red Chromosol / Sodosol)  
Hard setting loamy sand to light sandy loam with a poorly structured red alkaline clayey to clay loamy subsoil.
- D7** Sandy loam to 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 strongly structured clay grading to a well structured red calcareous medium to heavy clay continuing below 100 cm. Often contain gypsum segregations in subsoil.
- J1** Ironstone gravelly clay loam over brown clay (Ferric, Calcic, Brown Sodosol)  
Ironstone gravelly clay loam to loam overlying a brown alkaline clayey subsoil, calcareous with depth, grading to highly weathered, kaolinized sediments or basement rocks.
- L1** Shallow stony loam (Paralithic, Leptic Tenosol)  
Shallow stony loam, often calcareous with depth, overlying weathering fine grained rock shallower than 50 cm.
- M1** Deep alluvial loam (Calcareous, Regolithic, Brown-Orthic Tenosol)  
Very thick brown loam to sandy loam, usually calcareous with depth, continuing below 100 cm.
- M3** Deep gravelly soil (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](#)

